



# Flight Information Exchange Model Data Dictionary

**Executive Summary:** The realm of Air Traffic Management has evolved rapidly in the previous decades, from using localized, uncoordinated systems to implementing national, highly integrated systems. Now the expansion of air travel requires another step: trans-national integration of flight control systems. This effort requires many standardization steps, but one of the most important is the common definition of the data that constitute a "flight." The Flight Information Exchange Model (FIXM) provides the models that implement this standardization. When a majority of flight control systems are able to read and write flight messages in a common FIXM format, they will be able to coordinate the management of air traffic seamlessly.

This FIXM Data Dictionary serves as a catalogue of flight data elements (FDEs) that are expected to be exchanged using the FIXM standard. It provides a definition for those FDEs, as well as alternate names that reflect various nomenclatures across systems and domains, relationships among FDEs, data types, value ranges (where applicable), business rules associated with the individual use of each FDE, and references to authoritative documents where the FDEs can be found. This document is complementary to the other FIXM artifacts such as the FIXM models and the FIXM schemas.

27<sup>th</sup> June 2012

**Version: 1.0**

---

**THIS PAGE INTENTIONALLY LEFT BLANK**

## Document History

[illegible]

## Contents

1	Dictionary Metadata Definitions	7
1.1	Version.....	7
1.2	Date.....	7
1.3	Author.....	7
1.4	Description of Changes.....	7
2	Element Metadata Definitions	7
2.1	Name.....	7
2.2	Definition.....	8
2.3	Alternate Names.....	8
2.4	Has Parts.....	8
2.5	Is Part Of.....	8
2.6	Range of Values.....	8
	Notation.....	8
2.7	Business Rules.....	10
2.8	Notes.....	10
2.9	References.....	10
3	Data Types	10
4	Dictionary Metadata	12
5	Change Log	12
6	Data Elements	14
6.1	Action Taken By Reporting Unit.....	14
6.2	Aircraft Address.....	15
6.3	Aircraft Color and Markings.....	16
6.4	Aircraft Identification.....	17
6.6	Aircraft Operator Identity.....	19
6.7	Aircraft Performance Category.....	20
6.8	Aircraft Quantity.....	21
6.9	Aircraft Registration Mark.....	22
6.10	Aircraft Type.....	23
6.11	Airway.....	24
6.12	Arrival Aerodrome.....	25

6.13	Arrival Time - Actual.....	26
6.14	Beacon Code.....	27
6.15	Boundary Crossing Condition.....	28
6.16	Boundary Crossing Level - Cleared.....	29
6.17	Boundary Crossing Level - Transition.....	30
6.18	Boundary Crossing Point.....	31
6.19	Boundary Crossing Time.....	32
6.20	Change Cruise Climb.....	33
6.21	Change Flight Rules.....	34
6.22	Change Speed and Altitude.....	35
6.23	Communications Capabilities.....	36
6.24	Cruising Altitude - Requested.....	37
6.25	Cruising Speed.....	38
6.26	Data Link Communication Capabilities.....	39
6.27	Departure Aerodrome.....	40
6.28	Departure Time - Estimated.....	41
6.29	Destination Aerodrome.....	42
6.30	Destination Aerodrome - Alternate.....	43
6.31	Dinghy Color.....	44
6.32	Dinghy Cover Status.....	45
6.33	Dinghy Quantity.....	46
6.34	Dinghy Total Capacity.....	47
6.35	Emergency Description.....	48
6.36	Emergency Message Originator.....	49
6.37	Emergency Phase.....	50
6.38	Emergency Radio Transmitter Type.....	51
6.39	En Route Alternate Aerodrome.....	52
6.40	En Route Delay - Filed.....	53
6.41	Estimated Elapsed Time.....	54
6.42	Flight Plan Accepted.....	55
6.43	Flight Plan Filer.....	56
6.44	Flight Plan Originator.....	57
6.45	Flight Rules.....	58
6.46	Flight Type.....	59
6.47	Fuel Endurance.....	60
6.48	Globally Unique Flight Identifier.....	61

6.49	Inter-Facility Remarks.....	62
6.50	Last Contact Radio Frequency.....	63
6.51	Last Contact Time.....	64
6.52	Last Contact Unit.....	65
6.53	Last Known Position Report.....	66
6.54	Last Known Position Report - Determination Method.....	67
6.55	Life Jacket Type.....	68
6.56	Navigation Capabilities.....	69
6.57	Number of Persons on Board.....	71
6.58	Other Search and Rescue Information.....	72
6.59	Performance-Based Navigation Capabilities.....	73
6.60	Pilot In Command.....	75
6.61	Radio Failure Remarks.....	76
6.62	Remaining Communication Capabilities.....	77
6.63	Route.....	78
6.64	Route - Revised Destination.....	79
6.65	Selective Calling Code.....	80
6.66	Significant Point.....	81
6.67	Special Handling Reason.....	82
6.68	Surveillance Capabilities.....	83
6.69	Survival Equipment Remarks.....	85
6.70	Survival Equipment Type.....	86
6.71	Takeoff Alternate Aerodrome.....	87
6.72	Time En Route - Estimated.....	88
6.73	Wake Turbulence Category.....	89
Appendix A: Glossary		90
Appendix B: Acronym List		92
Appendix C: FIXM DD to FIXM Schema correspondence matrix		95

# 1 Dictionary Metadata Definitions

The dictionary-level metadata provide information about the FIXM Data Dictionary (FIXM DD) as a traceable entity. This metadata is used to identify specific versions of the Data Dictionary, and helps provide configuration management support.

## 1.1 Version

This metadata contains the version number of the document. This information can be used to provide configuration management and version control for the document. The version number consists of a major version number followed by a minor version number followed by a maintenance release number. The three numbers are separated by the period character ('.'). An example of a version number is "1.0.2".

The version number is assigned by the FIXM developer, following these rules:

1. The major version number is incremented whenever there are significant changes in the scope or content of FIXM. It is expected that major releases entail changes to the systems that use FIXM.
2. The minor version number is incremented whenever small changes to the scope or content of FIXM are operated. Minor releases are not expected to introduce significant changes to the systems using FIXM.
3. The maintenance release number is incremented whenever small changes are made to the FIXM documentation, but no changes to the model and schema. Most of these changes are editorial. Maintenance releases should not entail any changes to the systems using FIXM.

## 1.2 Date

Captures the date the current version of the document was officially released. This information, together with the version number, is used to provide configuration management and version control.

## 1.3 Author

This metadata captures the name and affiliation of the persons or organizations who contributed to the current version of the FIXM Data Dictionary.

## 1.4 Description of Changes

This metadata contains brief descriptions of the changes operated since the previous version.

# 2 Element Metadata Definitions

Element-level metadata are used to capture the meaning of the data elements, to provide the context in which they appear, and their associated business rules. They are as follows:

## 2.1 Name

This metadata captures a unique, descriptive name for the data element. The naming convention used in this document attempts to fulfill the following goals:

1. The data element name should not contain acronyms – to the extent possible. The use of acronyms raises the risk of the names being used erroneously.
2. The name should express – as much as possible – the type of data that it represents (e.g., time, speed, altitude)
3. The names should be constructed such that related data elements are adjacent in an alphabetized list. For example, “Alternate Destination Aerodrome” was named “Destination Aerodrome – Alternate” so it is adjacent to another related data element called “Destination Aerodrome”.

## 2.2 Definition

This metadata describes the data element in unambiguous and universal terms such that a reader, with a basic level of aviation domain knowledge, can have a clear understanding of what information the data element represents. If necessary, the description may point to references that provide further clarification. This description avoids jargon or references to systems’ behavior and is clear and succinct.

## 2.3 Alternate Names

This metadata captures alternate terms (e.g., terms from other domains that are used synonymously), related information (e.g., operational concepts for which the data element is important), and any other information that would facilitate the discovery of semantically equivalent (or related) data elements.

## 2.4 Has Parts

This metadata lists any other (possibly more basic) data elements contained by the data element to which the metadata refers. For example, the data element *aircraft* might have the following parts: *aircraftId*, *wakeTurbulenceCategory*, *icaoAddress*, *airborneEquipQualifier*, *operatingAgency*, and *registrationMark*.

## 2.5 Is Part Of

This metadata lists any data elements which contain (or reference) the data element to which the metadata refers. For example, an *altitude* data element might be a part of both *trajectory* and *aircraft*.

## 2.6 Range of Values

This metadata indicates the range of the values the data element can take. This is accomplished by either providing upper and lower threshold values, or by explicitly enumerating all the possible values. In case of an enumeration, this metadata also specifies if the data element can take only one or multiple of the enumeration values.

There are a few exceptions to how this metadata is used in the Data Dictionary:

1. In some cases, the list of all the possible values for a data element is too long to be captured in this document. In those cases, the “Range of Values” metadata field will contain a reference to the document(s) that specify the valid list of values.
2. Some data elements can assume either a free-form text value or one (or more) values from a controlled vocabulary. In these cases, “Range of Values” captures the controlled vocabulary, and the “Notes” section mentions the dual nature of the data element’s value.



## Notation

The following notation conventions are used to describe the range of values:

1. **Discrete enumeration.** Predefined values that are listed explicitly and exhaustively. They are separated by commas, and the whole collection is delimited by curly brackets. Example: {IFR, VFR}. In a software implementation, this type of discrete enumeration would be implemented as an enumeration.
2. **Numeric range.** These are ranges of numbers that are defined implicitly by specifying the lower and upper limits, separated by a dash symbol ('-') and delimited by square brackets. Example: [0-99] specifies a range of 100 numeric values starting with 0 (inclusive of 0) and ending with 99 (inclusive of 99). Some numeric ranges are specified in bases other than 10, such as base 8 (octal) or 16 (hexadecimal). In these cases, an explanatory note is provided.
3. **Alphabetic range.** These are ranges of alphabetic characters defined implicitly by specifying the first and last characters, separated by the dash symbol ('-') and delimited by square brackets. Example: [A-Z] specifies a range of letters (ordered alphabetically) starting with upper-case 'A' and ending with upper-case 'Z'. Please note, that unless specified otherwise, all alphabetic characters are assumed to be upper case letters corresponding to the American Standard Code for Information Interchange (ASCII) characters in the range of 41<sub>hex</sub> to 5A<sub>hex</sub>.

These notation conventions can be combined, in order to express more complex types of ranges. For example:

1. [A-Z, 0-9] represents upper-case letters and numbers
2. {[A-Z], +, ,, -} represents upper-case letters, the '+' (plus) character, the ',' (comma) character, and the '-' (minus) character

The range of values, as defined above, can be accompanied by a modifier that further defines the range:

1. **Multiplicity.** The number of values that each data element can have is specified in plain language, preceding or following the range definition. For example, if the data element can take only one value from a discrete enumeration (i.e., the enumeration has mutually exclusive values), then the range is specified as "one of the following values: {V1, V2, V3, V4}". If multiple values are acceptable, the range is specified as "one or more of the following values: {V1, V2, V3, V4}". If there is an upper limit on how many values can be combined, that is specified also ("up to 3 of {V1, V2, V3, V4, V5}")
2. **Exclusion.** In certain cases, some values in an implicit range are not valid. In those cases, the invalid values are specified after the range. For example: "[A-S] excluding {I, N, O}"

Other considerations:

1. **Free-form text.** Unless otherwise specified, the default value range for the acceptable characters in free-form text is {[A-Z], [0-9], -, ?, :, (, ), ., ,, ', =, /, +}

2. **Date / Time.** Any value for date/ time stamps is acceptable, subject to business rule restrictions (e.g., flight arrival time should be greater than flight departure time).
3. **Complex data elements.** Certain data elements are complex in nature (they contain other data elements as components). In these cases, the range of values is not specified (the value of the metadata field is "N/A".)
4. **Polymorphism.** Certain data elements can be expressed in multiple ways (e.g., either as a free-form text or a value from a controlled vocabulary). If one of the forms of the data element has a well-defined range, it will be captured in the "Range of Values" field - with the appropriate explanation as to which form the range applies.
5. **Multiple Units of Measure (UOM).** Some data elements (notably altitudes) can be expressed in multiple units of measure (e.g., feet, meters). In this case, a separate range is provided for each unit of measure.

## 2.7 Business Rules

Business Rules are information that define or constrain some aspect of the use of a particular data element. They have the following functions:

1. describe rules for grouping or associating data elements
2. define role or functionality associated with data elements
3. describe rules for using the data elements in specific contexts

For example, a business rule for *Length of Time Out Delay* might be "Time out delay logic is not applied to international flights."

## 2.8 Notes

This metadata captures any information or knowledge that does not fit in the metadata above.

## 2.9 References

This metadata lists specific documents which further define, explain, and/or provide additional information about the data element, its context and its role.

# 3 Data Types

Each of the data elements captured in this Data Dictionary is of one of the data types below:

	Data Type	Description
1.	Alpha Character	One upper-case alphabetic character in the range [A-Z]
2.	Alpha String	String of upper-case alphabetic characters in the range [A-Z]
3.	Alphanumeric	One character that is in the following range: {[A-Z], [0-9],

	Data Type	Description
	Character	-,?,:,(, ), ., ,, ', =, /,+}
4.	Alphanumeric String	String of characters that are in the following range: {[A-Z], [0-9], -,?,:,(, ), ., ,, ', =, /,+}  NOTE: Throughout the Data Dictionary the reader might encounter the concept of “free form text”. This is simply an alphanumeric string containing unstructured words and sentences
5.	Altitude	The altitude can be expressed in two ways:  <b>Flight Level.</b> A Flight Level (FL) is a standard nominal altitude of an aircraft, calculated from the International standard pressure datum of 1013.25 hPa (29.92 inches in Hg), the average sea-level pressure. It is not necessarily the same as the aircraft's true altitude, either above mean sea level or above ground level.  <b>Altitude.</b> This is the real altitude of the plane calculated by the aircraft, by measuring the air pressure and adjusting it for the local air pressure.  Both Flight Level and Altitude can be expressed in meters or feet
6.	Boolean	This data type has one of two values (usually denoted <b>true</b> and <b>false</b> ), intended to provide the truth value of a state represented by the data element (e.g., if the “Flight Plan Accepted” data element has the value <b>true</b> , it signifies that the flight plan was accepted)
7.	Complex	This data type is a combination of two or more other data types and is associated with data elements that are composed of multiple parts
8.	Date Time	Represents a specific instance of time (including the date)  The pattern for this data type is CCYY-MM-DDThh:mm:ss where CC represents the century, YY the year, MM the month, and DD the day, preceded by an optional leading negative (-) character to indicate a negative number. If the negative character is omitted, positive (+) is assumed. The T is the date/time separator and hh, mm, and ss represent hour, minute, and second respectively. Additional digits can be used to increase the precision of fractional seconds, if desired. For example, the format ss.ss... with any number of digits after the decimal point is supported. Specifying fractions of a second is optional.  This representation may be immediately followed by a "Z" to indicate Coordinated Universal Time (UTC) or to indicate the time zone. For example, the difference between the local time and Coordinated Universal Time, immediately

	Data Type	Description
		followed by a sign, + or -, followed by the difference from UTC represented as hh:mm (minutes is required). If the time zone is included, both hours and minutes must be present
9.	Enumeration	<p>This data type represents one or multiple choices from a finite, predefined and controlled vocabulary.</p> <p>NOTE: In this document, whenever the 'Enumeration' data type is used, the controlled vocabulary is specified in the 'Range of Values' field, whenever practicable. If the enumeration is too large to be included explicitly, a reference is provided.</p>
10.	Float	Represents single-precision 32-bit floating-point numbers
11.	Integer	Represents an integer number
12.	Location	<p>This data type describes a geographic location. For the purposes of FIXM, the location can be defined in any of the following ways:</p> <ol style="list-style-type: none"> <li>1. <b>Location Identifier.</b> The location is identified by a predefined 3-4 character long string. This string can be either an aerodrome code or a fix name. Aerodrome codes are published in document ICAO Document 7910 and FAA Order JO 7350.8T. U.S. fix names are published in document FAA Order JO 7350.8T.</li> <li>2. <b>Latitude/Longitude.</b> The location is defined by a pair of latitude and longitude coordinates</li> <li>3. <b>Fix-radial-distance.</b> The location is defined by three values: a navigation aid identifier (typically a VOR), a magnetic heading, and a distance. Typically, the distance is expressed in nautical miles</li> </ol>
13.	Numeric Character	One numeric character in the range [0-9]
14.	Numeric String	String of numeric characters in the range [0-9]
15.	Time Interval	<p>Represents duration of time.</p> <p>The pattern for duration is PnYnMnDTnHnMnS, where nY represents the number of years, nM the number of months, nD the number of days, T the date/time separator, nH the number of hours, nM the number of minutes, and nS the number of seconds.</p>

## 4 Dictionary Metadata

<b>Version</b>	1.0
<b>Date</b>	06/27/2012
<b>Author</b>	Booz Allen Hamilton
<b>Description of Changes</b>	Incorporated final updates from stakeholder feedback and updated with minor editorial changes.

## 5 Change Log

The table below provides traceability between the data elements in this version and data elements in the previous one. The intent of this section is to provide a quick reference of changes without a detailed account of the reasons for the changes.

<b>FIXM DD v0.92</b>	<b>Action</b>	<b>Current - FIXM DD v1.0</b>
Aircraft Common Mark	Renamed and Merged	Aircraft Registration Mark
Aircraft CPDLC Address	Renamed	Aircraft Address
Aircraft Registration Nationality	Renamed and Merged	Aircraft Registration Mark
ATS Route Designator	Renamed	Airway
Boundary Crossing Level - Limit	Renamed	Boundary Crossing Level - Transition
Boundary Crossing Point - Inbound	Renamed	Boundary Crossing Point
Center to Center External Remarks	Renamed	Inter-Facility Remarks
Change Altitude	Renamed	Change Speed and Altitude
Change Point	Renamed	Significant Point
Change Speed	Renamed	Change Speed and Altitude
Cruising Level	Renamed	Cruising Altitude - Requested
En Route Delay	Renamed	En Route Delay - Filed
ICAO Wake Turbulence Category	Renamed	Wake Turbulence Category
Performance Based Navigation Capability	Renamed	Performance Based Navigation Capabilities
--	Added	Survival Equipment Remarks

## 6 Data Elements

### 6.1 Action Taken By Reporting Unit

Action Taken By Reporting Unit	
<b>Definition</b>	A description of the actions taken by the reporting Air Traffic Service (ATS) unit, in the case of search and rescue
<b>Alternate Names</b>	ICAO Field 20g
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Alphanumeric String
<b>Range of Values</b>	N/A
<b>Business Rules</b>	[ICAO] When the information is not available, value should be NIL or NOT KNOWN
<b>Notes</b>	<ul style="list-style-type: none"><li>• [ICAO Standard ATS Messages] Transmitted in ALR as ICAO Field Type 20g.</li><li>• [SESAR Harmonization] Element is not present in the SESAR 10.02.05 FO. Element has been added to a list for consideration for inclusion in the SESAR model.</li></ul>
<b>References</b>	<ul style="list-style-type: none"><li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li><li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li></ul>

## 6.2 Aircraft Address

Aircraft Address	
<b>Definition</b>	A code that enables the exchange of text-based messages between suitably equipped ATS ground systems and aircraft cockpit displays
<b>Alternate Names</b>	24-bit Address, Mode S Address
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Numeric String
<b>Range of Values</b>	F00001 - FFFFFFFF (hexadecimal numbers)
<b>Business Rules</b>	Assigned in accordance with the provisions of ICAO Annex 10, Volume 3.
<b>Notes</b>	<ul style="list-style-type: none"> <li>• In addition to the standard hexadecimal representation, the Aircraft Address is sometimes published in its octal or decimal representation.</li> <li>• [ICAO Standard ATS Messages] Transmitted in ALR, FPL, CPL, SPL as ICAO Field Type 18, preceded by "CODE/"</li> <li>• [SESAR harmonization] Element is present in the SESAR 10.02.05 FO model as Aircraft::24BitsAddress and FGI::OtherInformation.code</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Annex 10 to the Convention on International Civil Aviation: Aeronautical Telecommunications, Vol. III, Communication Systems, Second Edition, 2007</li> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

### 6.3 Aircraft Color and Markings

Aircraft Color and Markings	
<b>Definition</b>	The colors of the aircraft and a description of its significant markings
<b>Alternate Names</b>	Significant Markings
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Alphanumeric String
<b>Range of Values</b>	N/A
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>• Supplementary information is stored with the flight planning service (wherever the flight plan is entered, e.g. FSS, DUATS, AOC, etc.).</li> <li>• [ICAO Standard ATS Messages] Transmitted in ALR and SPL as ICAO Field Type 19g, preceded by "A/". This information is part of the supplementary flight plan data and shall be kept readily available by the operator at the departure aerodrome or another agreed location, so that it can be supplied without delay when requested by ATS units.</li> <li>• [AFTN] When transmitted by the AFTN (aeronautical fixed telecommunications network), the message shall be assigned the same priority indicator as that in the request message.</li> <li>• [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGL::SupplementaryInformation.aircraft_colour and FGL::SupplementaryInformation.significant_markings</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>



## 6.4 Aircraft Identification

Aircraft Identification	
<b><i>Definition</i></b>	Name used by ATS units to identify and communicate with an aircraft
<b><i>Alternate Names</i></b>	Flight Identification, Flight ID, Call sign, ACID, ICAO Field 7a
<b><i>Has Parts</i></b>	
<b><i>Is Part Of</i></b>	
<b><i>Data Type</i></b>	Alphanumeric String
<b><i>Range of Values</i></b>	N/A
<b><i>Business Rules</i></b>	

Aircraft Identification	
Notes	<ul style="list-style-type: none"> <li>• This data element is currently used interchangeably with "Flight Identification". While current systems do not delineate between the two, they are distinct data elements in a one-to-one relationship for the duration of a flight. The Flight Object most likely will keep Aircraft Identification and Flight Identification, with the "Aircraft Identification" being closer aligned with the registration number, while the "Flight Identification" will resemble the current GUF1/TUF1. - Note that while Registration Mark is often used as an Aircraft Identification, it has a 1:1 relationship with an aircraft, whereas a call sign only has a 1:1 relationship with a flight.</li> <li>• [ICAO Standard ATS Messages] Transmitted in ALR, RCF, FPL, CHG, CNL, DLA, DEP, ARR, CPL, EST, CDN, ACP, RQP, RQS, and SPL as ICAO Field Type 7a. [NAS CMS] Field 02a</li> <li>• [ICAO] <ul style="list-style-type: none"> <li>a) The ICAO designator for the aircraft operating agency followed by the flight identification (e.g. KLM511, NGA213, JTR25); when in radiotelephony the call sign to be used by the aircraft will consist of the ICAO telephony designator for the operating agency followed by the flight identification (e.g. KLM511, NIGERIA 213)</li> <li>b) The nationality or common mark and registration marking of the aircraft (e.g. EIAKO, 4XBCD, N2567GA), when: <ul style="list-style-type: none"> <li>1. in radiotelephony the call sign to be used by the aircraft will consist of this identification alone (e.g. CGAJS), or preceded by the ICAO telephony designator for the aircraft operating agency (e.g. BLIZZARD CGAJS);</li> <li>2. the aircraft is not equipped with radio</li> </ul> </li> </ul> </li> <li>• [FAA] In lieu of (a) or (b) above, the aircraft identification may be the call sign determined by the military authorities used to identify the aircraft during flight (e.g. HUSKY41, STEEL52, and S12345)</li> <li>• [SESAR harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::Arcid.Identifier</li> </ul>

Aircraft Identification	
<i>References</i>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• ICAO Doc. 8585, Designators for Aircraft Operating Agencies, Aeronautical Authorities and Services</li> <li>• Annex 7 to the Convention on International Civil Aviation, 5th Edition, 2003</li> <li>• Annex 10 to the Convention on International Civil Aviation: Aeronautical Telecommunications, Vol. II, Communication Procedures including those with PANS status, Sixth Edition, 2001</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.5

### 6.6 Aircraft Operator Identity

Aircraft Operator Identity	
<b>Definition</b>	Identity of a person, organization or enterprise engaged in or offering to engage in aircraft operation
<b>Alternate Names</b>	Operator
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Alphanumeric String
<b>Range of Values</b>	N/A
<b>Business Rules</b>	Per ICAO Doc. 8585 - Designators for Aircraft Agencies, Aeronautical Authorities and Services: This data element is transmitted only when the operator is not obvious or is different from what is used as the Aircraft Identification
<b>Notes</b>	<ul style="list-style-type: none"><li>• [ICAO Standard ATS Messages] Transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by "OPR/". Also transmitted in ALR as Field Type 20a.</li><li>• [SESAR harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::OtherInformation.name_of_operator</li></ul>
<b>References</b>	<ul style="list-style-type: none"><li>• ICAO Doc. 8585 - Designators for Aircraft Agencies, Aeronautical Authorities and Services</li><li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li><li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li></ul>

## 6.7 Aircraft Performance Category

Aircraft Performance Category	
<b>Definition</b>	A coded category assigned to the aircraft based on a speed directly proportional to its stall speed, which functions as a standardized basis for relating aircraft maneuverability to specific instrument approach procedures
<b>Alternate Names</b>	Aircraft Performance Data, Performance Category
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Enumeration
<b>Range of Values</b>	one of the following letters: {A, B, C, D, E, H, O}
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO Standard ATS Messages] Transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by "PER/"</li> <li>• [SESAR harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::OtherInformation.aircraft_performance_data</li> <li>• [Range of Values] The letters in the range of values represent the following: <ul style="list-style-type: none"> <li>o A - Less than 169 km/h (91 kt) indicated airspeed (IAS)</li> <li>o B - 169 km/h (91 kt) or more but less than 224 km/h (121 kt) IAS</li> <li>o C - 224 km/h (121 kt) or more but less than 261 km/h (141 kt) IAS</li> <li>o D - 261 km/h (141 kt) or more but less than 307 km/h (166 kt) IAS</li> <li>o E - 307 km/h (166 kt) or more but less than 391 km/h (211 kt) IAS</li> <li>o H Helicopters</li> <li>o O - Other</li> </ul> </li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> <li>• Procedures for Air Navigation Services Aircraft Operations: Flight Procedures Doc. 8168</li> </ul>

## 6.8 Aircraft Quantity

Aircraft Quantity	
<b>Definition</b>	Number of aircraft flying in a formation in which the aircraft are governed by one flight plan
<b>Alternate Names</b>	Number of Aircraft, ICAO Field 9a
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Integer
<b>Range of Values</b>	[2 - 99]
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 9a [NAS CMS] Field 03a</li> <li>• [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGL::NumberOfAircraft.number</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• FAA Order JO 7110.65T, Air Traffic Control-procedures and phraseology, February 2010</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.9 Aircraft Registration Mark

Aircraft Registration Mark	
<b>Definition</b>	A unique alphanumeric string that identifies a civil aircraft. This is made up of the Aircraft Nationality or Common Mark and an additional alphanumeric string assigned by the state of registry or common mark registering authority
<b>Alternate Names</b>	Registration Number, Tail Number, Registration
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Alphanumeric String
<b>Range of Values</b>	N/A
<b>Business Rules</b>	<ul style="list-style-type: none"> <li>The Supplement to Annex 7 to the Convention on International Civil Aviation provides the national prefixes and common marks and describes the formats for each state and common mark registering authority.</li> <li>Aircraft must establish registration with a national aviation authority or common mark registering authority.</li> <li>This data element is transmitted only when the operator is not obvious or is different from what is used as the Aircraft Identification</li> </ul>
<b>Notes</b>	<ul style="list-style-type: none"> <li>[ICAO Standard ATS Messages] Transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by "REG/" [FAA] The FAA maintains an on-line aircraft registry at <a href="http://www.faa.gov/licenses_certificates/aircraft_certification/aircraft_registry/">http://www.faa.gov/licenses_certificates/aircraft_certification/aircraft_registry/</a></li> <li>[SESAR Harmonization] Element is not present in the SESAR 10.02.05 FO. Element has been added to a list for consideration for inclusion in the SESAR model</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>Supplement to Annex 7 to the Convention on International Civil Aviation - Aircraft Nationality and Registration Marks</li> <li>Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>Annex 7 to the Convention on International Civil Aviation, 5th Edition, 2003</li> <li>Annex 10 to the Convention on International Civil Aviation: Aeronautical Telecommunications, Vol. II, Communication Procedures including those with PANS status, Sixth Edition, 2001</li> <li>Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.10 Aircraft Type

Aircraft Type	
<b>Definition</b>	The manufacturer and model of the airframe expressed either as an ICAO-approved designator or a text description
<b>Alternate Names</b>	Type of Aircraft, ICAO Field 9b
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Alphanumeric String
<b>Range of Values</b>	Valid range of identifiers described in ICAO Doc. 8643
<b>Business Rules</b>	Approved aircraft type designators are defined in ICAO Doc. 8643
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 9b. If no designator has been assigned or if there is more than one type of aircraft in the flight, the string "ZZZZ" is used in Item 9b. In this case, the type(s) of aircraft is (are) to be shown in Field Type 18, preceded by "TYP/" and, if necessary, the number of aircraft of the type specified.</li> <li>• [NAS CMS] This data element corresponds to Field 03c</li> <li>• [SESAR Harmonization] Element is present in SESAR 10.02.05 FO model as FGL::AircraftType.type</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> <li>• Aircraft Type Designators - Doc. 8643</li> </ul>



## 6.11 Airway

Airway	
<b>Definition</b>	The coded designator for a published ATS route or route segment
<b>Alternate Names</b>	ATS Route Designator, Track
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Alphanumeric String
<b>Range of Values</b>	N/A
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"><li>• An Airway can be a standard departure or arrival route designator. This data element is a type of route designator, and the composition and use of route designator codes is described in ICAO Annex 11.</li><li>• [ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 15c(2)</li></ul>
<b>References</b>	<ul style="list-style-type: none"><li>• Annex 11 to the Convention on International Civil Aviation, 13th Edition, 2001</li><li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li><li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li></ul>

## 6.12 Arrival Aerodrome

Arrival Aerodrome	
<b>Definition</b>	The ICAO designator, or the name of the aerodrome, at which the flight has arrived, the arrival location identified either as a named fix or a pair of latitude/longitude coordinates, or bearing and distance from the nearest significant point, or a marker radio beacon
<b>Alternate Names</b>	Arrival Airport, ICAO Field 17a
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Location
<b>Range of Values</b>	If expressed as ICAO location identifier, values comply with ICAO Doc. 7910
<b>Business Rules</b>	Aerodrome location identifiers are per ICAO Doc. 7910. If none is available for the aerodrome, this data element will be free text following standard FIXM usage for locations
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO Standard ATS Messages] Transmitted in ARR as ICAO Field Type 17a. Expressed as a 4-letter ICAO location indicator. The letters "ZZZZ" are used if no indicator has been allocated to the arrival aerodrome. If the letters ZZZZ are used, the name of the arrival aerodrome is inserted in ICAO Field Type 18.</li> <li>• This data element is similar to Destination Aerodrome, and the two have equal values in most cases. However, they remain conceptually different as standalone data elements.</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• ICAO Doc. 7910 - Location Identifiers</li> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.13 Arrival Time - Actual

Arrival Time - Actual	
<b>Definition</b>	For Instrument Flight Rules (IFR) flights, the time at which the aircraft arrived over a designated point, defined by reference aids, from which an instrument approach procedure commenced, or, if no navigation aid was associated with the aerodrome, the time at which the aircraft arrived over the aerodrome. For Visual Flight Rules (VFR) flights, the time at which the aircraft arrived over the aerodrome. The time is given in UTC (Zulu time).
<b>Alternate Names</b>	Time of Arrival, Actual Time of Arrival, ICAO Field 17b
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Date Time
<b>Range of Values</b>	N/A
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO Standard ATS Messages] Transmitted in ARR as ICAO Field Type 17b</li> <li>• [SESAR Harmonization] Element is not present in the SESAR 10.02.05 FO. Element has been added to a list for consideration for inclusion in the SESAR model</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.14 Beacon Code

Beacon Code	
<b>Definition</b>	Four character numeric code transmitted by the aircraft transponder in response to a secondary surveillance radar interrogation signal that is used to assist air traffic controllers to identify aircraft
<b>Alternate Names</b>	Squawk Code, transponder code, Mode 3A, Mode A, ICAO Field 7c
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Numeric String
<b>Range of Values</b>	[0000 - 7777] (expressed as octal numbers - each digit is in the range [0-7]).
<b>Business Rules</b>	<ul style="list-style-type: none"> <li>Codes 7500, 7600, and 7700 are universally reserved for special purposes (e.g. indication of a hijack or other emergency)</li> <li>Other codes are also reserved for special purposes, under various national and international regulations</li> </ul>
<b>Notes</b>	<ul style="list-style-type: none"> <li>The discrete transponder code (often called a squawk code) is assigned by air traffic controllers to uniquely identify an aircraft</li> <li>Beacon Codes are four-digit octal numbers. Thus, the lowest possible squawk is 0000 and the highest is 7777</li> <li>Four octal digits can represent up to 4096 different codes</li> <li>[ICAO Standard ATS Messages] Transmitted in ALR, RCF, FPL, CHG, CNL, DLA, DEP, ARR, CPL, EST, CDN, ACP, RQP, RQS, and SPL as ICAO Field Type 7c.</li> <li>[NAS CMS] This data element corresponds to Field 04a.</li> <li>[SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as SSRCode::SSRCode.code</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> <li>FAA Order JO 7110.66D, National Beacon Code Allocation Plan, 2009</li> </ul>

## 6.15 Boundary Crossing Condition

Boundary Crossing Condition	
<b>Definition</b>	Indicator of whether an aircraft will cross an associated boundary crossing point at or above or at or below the altitude specified by the Boundary Crossing Level
<b>Alternate Names</b>	Crossing Condition, ICAO Field 14e
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Enumeration
<b>Range of Values</b>	one of the following values: {A, B}
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>The meaning of the values is the following: <ul style="list-style-type: none"> <li>A - at or above</li> <li>B - at or below</li> </ul> </li> <li>[ICAO Standard ATS Messages] Transmitted in CPL, and EST as ICAO Field Type 14e. This data is allowed by ICAO but not used in NAS</li> <li>[SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as CoordinationAndTransfer::CoordinationData.crossing_condition</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.16 Boundary Crossing Level - Cleared

Boundary Crossing Level - Cleared	
<b>Definition</b>	The cleared altitude flight level at which the aircraft will cross the boundary crossing point if in level cruising flight or, if the aircraft is climbing or descending at the boundary crossing point, the cleared flight level to which it is proceeding
<b>Alternate Names</b>	Cleared Level, ICAO Field 14c
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Integer
<b>Range of Values</b>	[0-130,000] if expressed in feet, [0 - 40,000] if expressed in meters
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO Standard ATS Messages] Transmitted in CPL, and EST as ICAO Field Type 14c</li> <li>• [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as CoordinationAndTransfer::CoordinationData.TFL.</li> <li>• Flight levels are pressure altitudes with respect to the pressure datum 1013.2 expressed in hecto Pascals (hPa). Altitudes are pressure altitudes with respect to local surface pressure measurements.</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.17 Boundary Crossing Level - Transition

Boundary Crossing Level - Transition	
<b>Definition</b>	A flight level at or above/below which (specified in Boundary Crossing Condition) an aircraft will cross the associated boundary point
<b>Alternate Names</b>	Supplementary Crossing Data, ICAO Field 14d
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Integer
<b>Range of Values</b>	[0-130,000] if expressed in feet, [0 - 40,000] if expressed in meters
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO Standard ATS Messages] Transmitted in CPL, and EST as ICAO Field Type 14d</li> <li>• Flight levels are pressure altitudes with respect to the pressure datum 1013.2 expressed in hecto Pascals (hPa). Altitudes are pressure altitudes with respects to local surface pressure measurements.</li> <li>• [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as CoordinationAndTransfer::CoordinationData.STFL</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.18 Boundary Crossing Point

Boundary Crossing Point	
<b>Definition</b>	The point where the flight will cross an ATS facility boundary
<b>Alternate Names</b>	ICAO Field 14a
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Location
<b>Range of Values</b>	If expressed as ICAO location identifier, values comply with ICAO Doc. 7910
<b>Business Rules</b>	Must be associated with a Boundary Crossing Time
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO Standard ATS Messages] Transmitted in CPL, and EST as ICAO Field Type 14a</li> <li>• [NAS CMS] This data element corresponds to Field 06</li> <li>• [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as Coordination And Transfer::ActiveCoordination::coordination_data (Point2D)</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>



## 6.19 Boundary Crossing Time

Boundary Crossing Time	
<b>Definition</b>	The estimated time at which a flight will cross the associated boundary crossing point. The time is given in UTC (Zulu time)
<b>Alternate Names</b>	Time at Boundary Point, ICAO Field 14b
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Date Time
<b>Range of Values</b>	N/A
<b>Business Rules</b>	Must be associated with a Boundary Crossing Point
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO Standard ATS Messages] Transmitted in CPL and EST as ICAO Field Type 14b</li> <li>• [NAS CMS] This data element corresponds to Field 07d</li> <li>• [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as Coordination And Transfer::ActiveCoordination::coordination_data (time)</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.20 Change Cruise Climb

Change Cruise Climb	
<b>Definition</b>	The parameters of a cruise climb executed at the associated significant point. It contains the following parameters: 1. the speed to be maintained during cruise climb; 2. either the minimum and maximum levels defining the layer to be occupied during cruise climb, or the level above which cruise climb is planned
<b>Alternate Names</b>	Cruise Climb, ICAO Field 15c6
<b>Has Parts</b>	Speed, Minimum Altitude, Maximum Altitude, Above Altitude
<b>Is Part Of</b>	
<b>Data Type</b>	Complex
<b>Range of Values</b>	Speed: [0-2200] if expressed in knots, [0-4000] if expressed in km/h, [0-3.8] if expressed in mach. Altitude: [0-130,000] if expressed in feet, [0 - 40,000] if expressed in meters
<b>Business Rules</b>	This data element is always associated with a Significant Point data element
<b>Notes</b>	<ul style="list-style-type: none"> <li>[ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 15c6</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.21 Change Flight Rules

Change Flight Rules	
<b>Definition</b>	The planned flight rules the aircraft will change to upon reaching the associated Significant Point along its Route
<b>Alternate Names</b>	Indicator, ICAO Field 15c5
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Enumeration
<b>Range of Values</b>	one of the following values: {IFR, VFR, DCT}
<b>Business Rules</b>	This data element is always associated with a "Significant Point" data element
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 15c(5)</li> <li>• The significance of the values is the following: <ul style="list-style-type: none"> <li>o "VFR" if a change to VFR is to be made at the associated Change Point</li> <li>o "IFR" if a change to IFR is to be made at the associated Change Point</li> <li>o "DCT" if the flight to the next point will be outside a designated route, unless both points are defined by geographical coordinates or by bearing and distance</li> </ul> </li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.22 Change Speed and Altitude

Change Speed and Altitude	
<b>Definition</b>	The planned speed and altitude that the aircraft will change to upon reaching the associated Significant Point along its Route
<b>Alternate Names</b>	Change of Speed, Change of Level, ICAO Field 15c4
<b>Has Parts</b>	Speed, Altitude
<b>Is Part Of</b>	
<b>Data Type</b>	Complex
<b>Range of Values</b>	Speed: [0-2200] if expressed in knots, [0-4000] if expressed in km/h, [0-3.8] if expressed in mach. Altitude: [0-130,000] if expressed in feet, [0 - 40,000] if expressed in meters
<b>Business Rules</b>	This data element is always associated with a Significant Point data element
<b>Notes</b>	<ul style="list-style-type: none"> <li>[ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 15c4</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.23 Communications Capabilities

Communications Capabilities	
<b>Definition</b>	The serviceable communications equipment, available on the aircraft at the time of flight, and associated flight crew qualifications that may be used to communicate with ATS units
<b>Alternate Names</b>	
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Enumeration or alphanumeric string
<b>Range of Values</b>	One or more of the following values (if enumeration): {N, S, E1, E2, E3, H, M1, M2, M3, P1, P2, P3, P4, P5, P6, P7, P8, P9, U, V, Y}
<b>Business Rules</b>	Standard equipment is VHF RTF, unless another set is prescribed by the appropriate ATS authority
<b>Notes</b>	<ul style="list-style-type: none"> <li>This data element can contain either free-form text or a combination of the following ICAO codes for communication capabilities: <ul style="list-style-type: none"> <li>N - No serviceable communication equipment for the route flown</li> <li>S - Standard equipment for the route flown. This is VHF RTF unless another set is prescribed by the appropriate ATS authority.</li> <li>E1 - FMC WPR ACAR</li> <li>E2 - D-FIS ACARS</li> <li>E3 - PDC ACARS</li> <li>H - HF RTF</li> <li>M1 - ATC RTF SATCOM (INMARSAT)</li> <li>M2 - ATC RTF (MTSAT)</li> <li>M3 - ATC RTF (Iridium)</li> <li>P1-P9 - reserved for RCP</li> <li>U - UHF RTF</li> <li>V - VHF RTF</li> <li>Y - ATS VHF w/ 8.33 kHz channel spacing capability</li> </ul> </li> <li>[ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 10a, or transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by "COM/". If transmitted as Field Type 18, the letter "Z" is used in Item 10a</li> <li>[SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGL::OtherInformation.communication_equipment</li> </ul>

Communications Capabilities	
<i>References</i>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.24 Cruising Altitude - Requested

Cruising Altitude - Requested	
<b>Definition</b>	The filed flight level for the first or the whole cruising portion of the flight
<b>Alternate Names</b>	Requested Cruising Level, ICAO Field 15b
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Integer
<b>Range of Values</b>	[0-130,000] if expressed in feet, [0 - 40,000] if expressed in meters
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 15b. This value represents the first cruising portion if there are level changes in 15c; otherwise, it represents the level for the whole cruising portion</li> <li>• [NAS CMS] This data element corresponds to Field 09</li> <li>• [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::ICAORoute</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.25 Cruising Speed

Cruising Speed	
<b>Definition</b>	The filed true air speed for the first or the whole cruising portion of the flight
<b>Alternate Names</b>	Mach Number, ICAO Field 15a
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Float
<b>Range of Values</b>	[0-2200.00] if expressed in knots, [0-4000.00] if expressed in km/h, [0-3.8] if expressed in Mach
<b>Business Rules</b>	[FAA] Under U.S. rules, the cruising speed could be classified under certain situations. Please see the FIXM NAS extensions for more details.
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 15a. If multiple cruising speeds are needed to describe the route in an unambiguous manner (see ICAO PANS-ATM), these can be expressed using Change Points.</li> <li>• [NAS CMS] This data element corresponds to Field 05</li> <li>• [SESAR Harmonization]: Element is present in the SESAR 10.02.05 FO model as FGI::ICAORoute. In SESAR, there is a cleared_speed within the Provided_Clearances within the Flight_Script</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>



## 6.26 Data Link Communication Capabilities

Data Link Communication Capabilities	
<b>Definition</b>	The serviceable equipment and capabilities, available on the aircraft at the time of flight, that may be used to communicate data to and from the aircraft
<b>Alternate Names</b>	
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Enumeration
<b>Range of Values</b>	one or more of the following values: {J1, J2, J3, J4, J5, J6, J7}
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>The meaning of the values is as follows: <ul style="list-style-type: none"> <li>J1 - CPDLC ATN VDL Mode 2</li> <li>J2 - CPDLC FANS 1/A HFDL</li> <li>J3 - CPDLC FANS 1/A VDL Mode A</li> <li>J4 - CPDLC FANS 1/A VDL Mode 2</li> <li>J5 - CPDLC FANS 1/A SATCOM (INMARSAT)</li> <li>J6 - CPDLC FANS 1/A SATCOM (MTSAT)</li> <li>J7 - CPDLC FANS 1/A SATCOM (Iridium)</li> <li>S - satellite data link</li> <li>H - HF data link</li> <li>V - VHF data link</li> <li>M - SSR Mode S data link</li> </ul> </li> <li>[ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 10a, or transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by "DAT/". If transmitted as Field Type 18, "Z" is inserted in item 10a</li> <li>[SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::OtherInformation.datalink_capabilities</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.27 Departure Aerodrome

Departure Aerodrome	
<b>Definition</b>	The ICAO designator of the aerodrome from which the flight departs, or, if no ICAO designator is available, the name of the departure airport or point of origin for the flight, or the departure location identified either as a named fix, a pair of latitude/longitude coordinates, bearing and distance from the nearest significant point, or a marker radio beacon
<b>Alternate Names</b>	Departure Airport
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Location
<b>Range of Values</b>	If expressed as ICAO location identifier, values comply with ICAO Doc. 7910
<b>Business Rules</b>	[FAA] In the case of field 18, Name or location identifier for an airport is entered, followed by location of the airport. If there is a location identifier published in the Aeronautical Information Publications (AIP) for the airport, but not in ICAO Doc. 7910, then the location is optional. If AFIL was filed, then no location is required but may be present; in any case, the automation can treat this as free text.
<b>Notes</b>	<ul style="list-style-type: none"> <li>[FAA] Not all 4-letter identifiers in the United States have been published in ICAO Doc. 7910. Therefore, location identifiers may be per national Aeronautical Information Publications (AIP).</li> <li>[ICAO Standard ATS Messages] If the Departure Aerodrome is expressed as a four character ICAO location indicator (as described in ICAO 7910), it is populated in field 13a of the Flight Plan, and transmitted in all standard ATS messages except RCF and LAM. If it is expressed in any other format, the string "ZZZZ" is inserted in field 13a, and the Departure Aerodrome information is inserted in field 18 (transmitted in ALR, FPL, CPL, and SPL), preceded by the string "DEP/". If the flight plan is filed while the aircraft is in flight, the string AFIL is inserted in field 13a, and the four-letter ICAO location indicator of the ATS unit from which supplementary flight plan data can be obtained is inserted in field 18, preceded by the string DEP/.</li> <li>[SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::OtherInformation.departure_aerodrome and FGI::FlightPlan.ref_id_departure_aerodrome</li> </ul>

Departure Aerodrome	
<i>References</i>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> <li>• ICAO Doc. 7910: Location Indicators, Edition No. 138, 2010</li> </ul>

## 6.28 Departure Time - Estimated

Departure Time - Estimated	
<b>Definition</b>	The estimated off-block time for the flight at the Departure Aerodrome, or, if the flight plan is filed in the air, the estimated time of departure from the first point on the route. The time is given in UTC (Zulu time).
<b>Alternate Names</b>	Estimated Off-Block Time
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Date Time
<b>Range of Values</b>	N/A
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>• This data element can be used to communicate a revised departure time due to a delay</li> <li>• [ICAO Standard ATS Messages] This data element is a combination of ICAO Field Type 13b (time) and 18 DOF/ (date). Currently, the ICAO FPL allows specification of the date of flight through a 2 digit prefix to the departure time. The time is transmitted in FPL and DLA messages transmitted before departure and in CHG, CNL, ARR, and RQP messages, if known, as ICAO Field Type 13b. The date is transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by "DOF/"</li> <li>• [NAS CMS] This data element corresponds to Field 07d</li> <li>• [SESAR Harmonization] The departure date is present in the SESAR 10.02.05 FO model as FGI::EstimatedOffBlockDate and FGI::EstimatedOffBlockTime</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.29 Destination Aerodrome

Destination Aerodrome	
<b>Definition</b>	The ICAO designator or the name of the aerodrome at which the flight is scheduled to arrive, the destination location identified either as a named fix or a pair of latitude/longitude coordinates, or bearing and distance from the nearest significant point, or a marker radio beacon
<b>Alternate Names</b>	Destination Airport, ICAO Field 16a
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Location
<b>Range of Values</b>	If expressed as ICAO location identifier, values comply with ICAO Doc. 7910
<b>Business Rules</b>	Per ICAO Doc. 7910: Location Indicators, Edition No. 138, 2010, NNN should not be used as the second, third and fourth letters of a location indicator such as the name of the destination aerodrome
<b>Notes</b>	<ul style="list-style-type: none"> <li>• This data element is similar to Arrival Aerodrome, and the two have equal values in most cases. However, they remain conceptually different as standalone data elements</li> <li>• [ICAO Standard ATS Messages] Transmitted in all Standard ATS Messages except RCF and LAM as ICAO Field Type 16a. If "ZZZZ" is used in 16a (in cases where no ICAO location indicator has been allocated for the aerodrome), the name of the destination aerodrome is transmitted as Field Type 18, preceded by "DEST/". This is transmitted in ALR, FPL, CPL, and SPL</li> <li>• [FAA] Order JO 7350.8 contains valid airport designators, and the Aeronautical Information Publication (AIP) contains the U.S. airports designated to handle international operations</li> <li>• [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::FlightPlan.ref_id_destination_aerodrome and FGI::OtherInformation.destination_aerodrome</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> <li>• ICAO Doc. 7910: Location Indicators, Edition No. 138, 2010</li> </ul>

## 6.30 Destination Aerodrome - Alternate

Destination Aerodrome - Alternate	
<b>Definition</b>	ICAO designator or the name of an alternate aerodrome to which an aircraft may proceed should it become either impossible or inadvisable to land at the original destination aerodrome, or an alternate destination location identified either as a named fix or a pair of latitude/longitude coordinates, a bearing and distance from the nearest significant point, or a marker radio beacon
<b>Alternate Names</b>	Destination Alternate Aerodrome, Alternate Airport, ICAO Field 16c
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Location
<b>Range of Values</b>	If expressed as ICAO location identifier, values comply with ICAO Doc. 7910
<b>Business Rules</b>	Per ICAO Doc. 7910: Location Indicators, Edition No. 138, 2010, NNN should not be used as the second, third and fourth letters of a location indicator such as the name of the destination aerodrome
<b>Notes</b>	<ul style="list-style-type: none"> <li>[ICAO Standard ATS Messages] Transmitted in all Standard ATS Messages except RCF and LAM as ICAO Field Type 16c. If "ZZZZ" is used in 16c (in cases where no ICAO location indicator has been allocated for the aerodrome), the name of the alternate aerodrome is transmitted in ALR, FPL, CPL, and SPL as Field Type 18, preceded by "ALTN/"</li> <li>[SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGL::FlightPlan.ref_id_alternative_destination_aerodromes and FGL::OtherInformation.alternate_destination_aerodromes</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> <li>ICAO Doc. 7910: Location Indicators, Edition No. 138, 2010</li> </ul>

## 6.31 Dinghy Color

Dinghy Color	
<b>Definition</b>	The color of the dinghies carried by the aircraft
<b>Alternate Names</b>	
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Alphanumeric String
<b>Range of Values</b>	N/A
<b>Business Rules</b>	[AFTN] When transmitted by the AFTN (aeronautical fixed telecommunications network), the message shall be assigned the same priority indicator as that in the request message
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO Standard ATS Messages] Transmitted in ALR and SPL as ICAO Field Type 19f, preceded by "D/"</li> <li>• [ICAO] Since this data is not part of the filed flight plan, it must be made available by the operator, so that it can be supplied without delay when requested by ATS units</li> <li>• [FAA] This information is part of the supplementary flight plan data and shall be kept readily available by the operator at the departure aerodrome or another agreed location so that, on request by ATS units, it can be supplied without delay. When transmitted by the AFTN (aeronautical fixed telecommunications network), the message shall be assigned the same priority indicator as that in the request message. Supplementary information is stored with the flight planning service [wherever the flight plan is entered (e.g. FSS, DUATS, AOC, etc.)]</li> <li>• [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGL::Dinghies.colour [AFTN] When transmitted by the AFTN, the message shall be assigned the same priority indicator as that in the request message.</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.32 Dinghy Cover Status

Dinghy Cover Status	
<b>Definition</b>	Indication of the covered/uncovered nature of the dinghies carried by the aircraft
<b>Alternate Names</b>	
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Enumeration
<b>Range of Values</b>	one of the following values: {C, U}
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>The meaning of the value is as follows: <ul style="list-style-type: none"> <li>U - uncovered</li> <li>C - covered</li> </ul> </li> <li>[ICAO] Since this data is not part of the filed flight plan, it must be made available by the operator, so that it can be supplied without delay when requested by ATS units</li> <li>[FAA] This information is part of the supplementary flight plan data and shall be kept readily available by the operator at the departure aerodrome or another agreed location, so that, on request by ATS units, it can be supplied without delay. When transmitted by the AFTN (aeronautical fixed telecommunications network), the message shall be assigned the same priority indicator as that in the request message. Supplementary information is stored with the flight planning service (wherever the flight plan is entered, e.g. FSS, DUATS, AOC, etc.)</li> <li>[ICAO Standard ATS Messages] Transmitted in ALR and SPL as ICAO Field Type 19f, preceded by "D/"</li> <li>[AFTN] When transmitted by the AFTN, the message shall be assigned the same priority indicator as that in the request message.</li> <li>[SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::Dinghies.are_covered</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>



## 6.33 Dinghy Quantity

Dinghy Quantity	
<b>Definition</b>	The number of dinghies carried by the aircraft.
<b>Alternate Names</b>	
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Integer
<b>Range of Values</b>	[0-99]
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO] Since this data is not part of the filed flight plan, it must be made available by the operator, so that it can be supplied without delay when requested by ATS units</li> <li>• [FAA] This information is part of the supplementary flight plan data and shall be kept readily available by the operator at the departure aerodrome or another agreed location, so that, on request by ATS units, it can be supplied without delay. When transmitted by the AFTN (aeronautical fixed telecommunications network), the message shall be assigned the same priority indicator as that in the request message. Supplementary information is stored with the flight planning service [wherever the flight plan is entered (e.g. FSS, DUATS, AOC, etc.)</li> <li>• [ICAO Standard ATS Messages] Transmitted in ALR and SPL as ICAO Field Type 19f, preceded by "D/"</li> <li>• [AFTN] When transmitted by the AFTN, the message shall be assigned the same priority indicator as that in the request message.</li> <li>• [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGL::Dinghies.number</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.34 Dinghy Total Capacity

Dinghy Total Capacity	
<b>Definition</b>	The total number of persons that can be accommodated by the dinghies carried on board the aircraft
<b>Alternate Names</b>	Total Capacity
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Integer
<b>Range of Values</b>	[0-999]
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO] Since this data is not part of the filed flight plan, it must be made available by the operator, so that it can be supplied without delay when requested by ATS units</li> <li>• [FAA] This information is part of the supplementary flight plan data and shall be kept readily available by the operator at the departure aerodrome or another agreed location so that, on request by ATS units, it can be supplied without delay. When transmitted by the AFTN (aeronautical fixed telecommunications network), the message shall be assigned the same priority indicator as that in the request message. Supplementary information is stored with the flight planning service [wherever the flight plan is entered (e.g. FSS, DUATS, AOC, etc.)]</li> <li>• [ICAO Standard ATS Messages] Transmitted in ALR and SPL as ICAO Field Type 19f, preceded by "D/"</li> <li>• [AFTN] When transmitted by the AFTN, the message shall be assigned the same priority indicator as that in the request message.</li> <li>• [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGL::Dinghies.total_capacity</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.35 Emergency Description

Emergency Description	
<b>Definition</b>	A short, plain-language description of the nature of the emergency
<b>Alternate Names</b>	Nature of Emergency, Description of Emergency, ICAO Field 5c
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Alphanumeric String
<b>Range of Values</b>	N/A
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO Standard ATS Messages] Transmitted in ALR as ICAO Field Type 5c</li> <li>• [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as Aircraft ::EmergencyData.emergency_description</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.36 Emergency Message Originator

Emergency Message Originator	
<b>Definition</b>	The ICAO identifier of the ATS unit originating the emergency message
<b>Alternate Names</b>	Originator of Message, ICAO Field 5b
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Alphanumeric String
<b>Range of Values</b>	ATS unit identifier values are published in ICAO Doc. 7910
<b>Business Rules</b>	Reference ICAO Doc. 7910 for 4-letter location indicators.
<b>Notes</b>	<ul style="list-style-type: none"><li>• [ICAO Standard ATS Messages] Transmitted in ALR as ICAO Field Type 5b</li><li>• [SESAR Harmonization] Element is not present in the SESAR 10.02.05 FO but has been added to a list for consideration for inclusion in the SESAR model</li></ul>
<b>References</b>	<ul style="list-style-type: none"><li>• ICAO Doc. 7910 - Location Identifiers</li><li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li><li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li></ul>

## 6.37 Emergency Phase

Emergency Phase	
<b>Definition</b>	Stage of emergency that the flight is currently under (uncertainty, alert, or distress), as designated by an ATS unit
<b>Alternate Names</b>	ICAO Field 5a
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Enumeration
<b>Range of Values</b>	one of the following values: {INCERFA, ALERFA, DETRESFA}
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>The meaning of the values is as follows: <ul style="list-style-type: none"> <li>INCERFA - uncertainty phase</li> <li>ALERFA - alert phase</li> <li>DETRESFA - distress phase</li> </ul> </li> <li>[ICAO Standard ATS Messages] Transmitted in ALR as ICAO Field Type 5a</li> <li>[SESAR Harmonization] Element is not present in the SESAR 10.02.05 FO. Element has been added to a list for consideration for inclusion in the SESAR model</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.38 Emergency Radio Transmitter Type

Emergency Radio Transmitter Type	
<b>Definition</b>	The type of serviceable communication devices available on the aircraft that is able to transmit an emergency radio signal
<b>Alternate Names</b>	Emergency, Communication Mode Type Code
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Enumeration
<b>Range of Values</b>	one or more of the following values: {U, V, E}
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>The meaning of the values is as follows: <ul style="list-style-type: none"> <li>U - UHF (243.0 MHz)</li> <li>V - VHF (121.5 MHz)</li> <li>E - ELT</li> </ul> </li> <li>[ICAO] Since this data is not part of the filed flight plan, it must be made available by the operator, so that it can be supplied without delay when requested by ATS units</li> <li>[FAA] This information is part of the supplementary flight plan data and shall be kept readily available by the operator at the departure aerodrome or another agreed location so that, on request by ATS units, it can be supplied without delay. When transmitted by the AFTN, the message shall be assigned the same priority indicator as that in the request message. Supplementary information is stored with the flight planning service (wherever the flight plan is entered... e.g. FSS, DUATS, AOC, etc.)</li> <li>[ICAO Standard ATS Messages] Transmitted in ALR and SPL as ICAO Field Type 19c, preceded by "R/"</li> <li>[AFTN] When transmitted by the AFTN (aeronautical fixed telecommunications network), the message shall be assigned the same priority indicator as that in the request message</li> <li>[SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGL::SupplementaryInformation.frequency_availability</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.39 En Route Alternate Aerodrome

En Route Alternate Aerodrome	
<b>Definition</b>	An ICAO designator of the aerodrome (identified either as a named fix or a pair of latitude/longitude coordinates, or bearing and distance from the nearest significant point, or a marker radio beacon) to which a flight could be diverted to while en route, if needed
<b>Alternate Names</b>	Enroute Alternate, Enroute Alternates
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Location
<b>Range of Values</b>	If expressed as ICAO location identifier, values comply with ICAO Doc. 7910
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO Standard ATS Messages] Transmitted in ALR, FPL, CPL, and SPL as Field Type 18, preceded by "RALT/"</li> <li>• [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::OtherInformation.enroute_alternate_aerodromes</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.40 En Route Delay - Filed

En Route Delay - Filed	
<b>Definition</b>	The length of time that the flight is expected to be delayed at a specific point en route
<b>Alternate Names</b>	Delay (at a fix)
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Time Duration
<b>Range of Values</b>	N/A
<b>Business Rules</b>	This data element must be used in combination with a Significant Point.
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO Standard ATS Messages] Transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by "DLE/". Note that ICAO cannot represent enroute delays larger than 24 hours</li> <li>• [SESAR Harmonization] Element is not present in the SESAR 10.02.05 FO. Element has been added to a list for consideration for inclusion in the SESAR model</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>



## 6.41 Estimated Elapsed Time

Estimated Elapsed Time	
<b>Definition</b>	The estimated amount of time from takeoff to reach a significant point or Flight Information Region (FIR) boundary
<b>Alternate Names</b>	EET
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Time Duration
<b>Range of Values</b>	N/A
<b>Business Rules</b>	This data element is always used in combination with a Significant Point
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO Standard ATS Messages] Transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by EET/</li> <li>• [SESAR Harmonization] Element is not present in the SESAR 10.02.05 FO but has been added to a list for consideration for inclusion in the SESAR model</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.42 Flight Plan Accepted

Flight Plan Accepted	
<b>Definition</b>	Indicates acceptance of the flight plan by the appropriate ATS authority
<b>Alternate Names</b>	
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Boolean
<b>Range of Values</b>	N/A
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>Supplementary information is stored with the flight planning service (wherever the flight plan is entered, e.g. FSS, DUATS, AOC, etc.). HOST/ERAM only uses the route information (i.e. fields 1-11 for NAS FPs, and fields 3-18 for ICAO FPs)</li> <li>An FO could exist before the flight plan is accepted (expressing flight plan intent). This element could be useful, if multiple flight plans are associated with an intended flight</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.43 Flight Plan Filer

Flight Plan Filer	
<b>Definition</b>	The name of the unit, agency or person filing the flight plan
<b>Alternate Names</b>	Filed by
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Alphanumeric String
<b>Range of Values</b>	N/A
<b>Business Rules</b>	This information is part of the supplementary flight plan data and shall be kept readily available by the operator at the departure aerodrome or another agreed location, so that, on request by ATS units, it can be supplied without delay
<b>Notes</b>	<ul style="list-style-type: none"> <li>[FAA] This information is part of the supplementary flight plan data and shall be kept readily available by the operator at the departure aerodrome or another agreed location, so that, on request by ATS units, it can be supplied without delay. When transmitted by the AFTN (aeronautical fixed telecommunications network), the message shall be assigned the same priority indicator as that in the request message</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.44 Flight Plan Originator

Flight Plan Originator	
<b>Definition</b>	The originator's eight-letter Aeronautical Fixed Telecommunication Network (AFTN) address, or other appropriate contact details, in cases where the originator of the flight plan may not be readily identified
<b>Alternate Names</b>	
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Alphanumeric String
<b>Range of Values</b>	The range of values for the 4-letter location identifiers is published in ICAO Doc. 7910, 3-letter designators are published in ICAO Doc. 8585.
<b>Business Rules</b>	This data element is comprised of a four-letter ICAO location indicator, followed by three letters identifying the organization or service address, followed by one letter identifying the department or division within the organization addressed. If a specific one-letter identifier is not required, the letter X is used as the final character.
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO Standard ATS Messages] Transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by "ORGN/"</li> <li>• [SESAR Harmonization] Element is not present in the SESAR 10.02.05 FO but has been added to a list for consideration for inclusion in the SESAR model</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• ICAO Doc. 8585, Designators for Aircraft Operating Agencies, Aeronautical Authorities and Service</li> <li>• ICAO Doc. 7910: Location Indicators, Edition No. 138, 2010</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.45 Flight Rules

Flight Rules	
<b>Definition</b>	The regulation, or combination of regulations, that governs all aspects of operations, under which the pilot plans to fly
<b>Alternate Names</b>	ICAO Field 8a
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Enumeration
<b>Range of Values</b>	one of the following values: {I, V, Y, Z}
<b>Business Rules</b>	May be changed by Change Flight Rules (ICAO Item 15c5)
<b>Notes</b>	<ul style="list-style-type: none"> <li>The meaning of the values is as follows: <ul style="list-style-type: none"> <li>I - Instrument Flight Rules (IFR)</li> <li>V - Visual Flight Rules (VFR)</li> <li>Y - IFR first</li> <li>Z - VFR first</li> </ul> </li> <li>[ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 8a</li> <li>[NAS] Flight rules are indicated in the altitude field and/or in the route field</li> <li>[SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGL::FlightPlan.flight_rules</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>FAA Order JO 7110.65T, Air Traffic Control-procedures and phraseology, February 2010</li> <li>Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.46 Flight Type

Flight Type	
<b>Definition</b>	Indication of the rule under which an air traffic controller provides categorical handling of a flight
<b>Alternate Names</b>	Type of Flight, ICAO Field 8b
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Enumeration
<b>Range of Values</b>	one of the following values: {M, G, N, X, S}
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>The meaning of the values is as follows: <ul style="list-style-type: none"> <li>o M - Military</li> <li>o G - General Aviation</li> <li>o N - Non-schedule air transport</li> <li>o X - Other</li> <li>o S - Scheduled air service</li> </ul> </li> <li>[ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL, populated in Field 8b</li> <li>[SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGL::FlightPlan.flight_type.</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.47 Fuel Endurance

Fuel Endurance	
<b>Definition</b>	The estimated maximum length of time the aircraft can spend in cruising flight, determined by the amount of fuel at takeoff
<b>Alternate Names</b>	Endurance
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Time Duration
<b>Range of Values</b>	N/A
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO] Since this data is not part of the filed flight plan, it must be made available by the operator, so that it can be supplied, without delay, when requested by ATS units</li> <li>• [FAA] This information is part of the supplementary flight plan data and shall be kept readily available by the operator at the departure aerodrome or another agreed location, so that, on request by ATS units, it can be supplied without delay</li> <li>• [ICAO Standard ATS Messages] Fuel Endurance is transmitted in the ICAO SPL and ALR messages as ICAO Field Type 19a, preceded by "E/".</li> <li>• [AFTN] When transmitted by the AFTN (aeronautical fixed telecommunications network), the message shall be assigned the same priority indicator as that in the request message</li> <li>• [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::SupplementaryInformation.fuel_endurance</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.48 Globally Unique Flight Identifier

Globally Unique Flight Identifier	
<b>Definition</b>	A reference that uniquely identifies a specific flight and that is independent of any particular system
<b>Alternate Names</b>	GUFI, Flight ID, Flight Identifier
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Alphanumeric String
<b>Range of Values</b>	N/A
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>Per the Engineering Analysis of the Globally Unique Flight Identifier, Construct 2.0, March 2011, every flight data transaction includes the GUFI</li> <li>The GUFI is a string consisting of four alphanumeric fields separated by the period character: <ol style="list-style-type: none"> <li><b>Field 1:</b> Globally unique, predefined country or region code. 2 to 10 characters. Examples: us, euro.</li> <li><b>Field 2:</b> Unique organization code. Can be any unique flight operator code, such as a tail number. 2 to 10 characters. Must be unique within the given country or region. Examples: faa, tfms, ual, N1745B.</li> <li><b>Field 3:</b> Date-time that the identifier was created. 20 characters, in FIXM format. (to seconds, Z time) Multiple GUFIs for the same country and organization code may have the same date-time, as long as they are differentiated by the fourth field. Example: 2012-05-12T17:43:22Z</li> <li><b>Field 4:</b> Sequence number. An integer from 1 to 999999, or any other unique string that can differentiate between GUFIs whose fields 1-3 is identical. In other words, if more than one GUFI is generated during the same second using the same country and organization code, they must each have a different sequence number. Example: 1,2,3</li> </ol> </li> <li>[SESAR Harmonization] Element is not present in SESAR 10.02.05 FO. Element has been added to a list for consideration for inclusion in the SESAR model</li> </ul>



Globally Unique Flight Identifier	
<i>References</i>	<ul style="list-style-type: none"> <li>• Engineering Analysis of the Globally Unique Flight Identifier, Construct 2.0, March 2011</li> </ul>

## 6.49 Inter-Facility Remarks

Inter-Facility Remarks	
<b>Definition</b>	Plain language remarks passed between ATS units with the purpose of providing additional information about the flight (e.g. requested flight level changes after takeoff)
<b>Alternate Names</b>	Remarks
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Alphanumeric String
<b>Range of Values</b>	N/A
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO Standard ATS Messages] Transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by "RMK/"</li> <li>• [NAS CMS] This data element corresponds to Field 11</li> <li>• [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::OtherInformation.other_remarks</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.50 Last Contact Radio Frequency

Last Contact Radio Frequency	
<b>Definition</b>	The transmitting / receiving frequency of the last two-way contact between the aircraft and an ATS unit
<b>Alternate Names</b>	Frequency of Last Contact, ICAO Field 20d, ICAO Field 21b
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Float
<b>Range of Values</b>	N/A
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO Standard ATS Messages] Transmitted in ALR as ICAO Field Type 20d, or in RCF as ICAO Field Type 21b. If the information is not available, value should be NIL or NOT KNOWN</li> <li>• [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as Aircraft ::EmergencyData.frequency_of_last_contact</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.51 Last Contact Time

Last Contact Time	
<b>Definition</b>	The time of the last two-way contact between the aircraft and an ATS unit. The time is given in UTC (Zulu time).
<b>Alternate Names</b>	Time of Last Two-way Contact, ICAO Field 20c, ICAO Field 21a
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Date Time
<b>Range of Values</b>	N/A
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO Standard ATS Messages] Transmitted in ALR as ICAO Field Type 20c, or in RCF as ICAO Field Type 21a. If the information is not available, value should be NIL or NOT KNOWN</li> <li>• [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as Aircraft ::EmergencyData.time_of_last_two_way_contact</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.52 Last Contact Unit

Last Contact Unit	
<b>Definition</b>	The last ATS unit which had two-way contact with the aircraft
<b>Alternate Names</b>	Unit Which Made Last Contact, ICAO Field 20b
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Alphanumeric String
<b>Range of Values</b>	ATS unit indicators are published in ICAO Doc. 7910
<b>Business Rules</b>	Per ICAO Doc. 7910 - Location Identifiers, the first letter shall be the letter assigned to the routing area within which the location is situated. The second letter shall be the letter assigned to the state or territory. The third letter should be assigned to assist in the process of routing to that communication center. States assigned the letter N should arrange their specific four-letter locations so as to avoid the use of the combination NN for the third and fourth letters.
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO Standard ATS Messages] Transmitted in ALR as ICAO Field Type 20b. If the information is not available, value should be NIL or NOT KNOWN</li> <li>• [SESAR Harmonization] Element is not present in the SESAR 10.02.05 FO. Element has been added to a list for consideration for inclusion in the SESAR model.</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• ICAO Doc. 7910 - Location Identifiers</li> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.53 Last Known Position Report

Last Known Position Report	
<b>Definition</b>	The position of the aircraft last known to ATS and a corresponding timestamp
<b>Alternate Names</b>	Last Reported Position, ICAO Field 20e
<b>Has Parts</b>	Location, Date Time
<b>Is Part Of</b>	
<b>Data Type</b>	Complex
<b>Range of Values</b>	N/A
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>This is a compound data element. It has both a position component and a time component</li> <li>[ICAO Standard ATS Messages] Transmitted in ALR as ICAO Field Type 20e. The ICAO field 20e contains both the last reported position and the time over that position. When used in the ICAO FPL field 20, if the information is not available, value should be NIL or NOT KNOWN. Also transmitted in RCF as ICAO Field Type 21c (position) and 21d (time)</li> <li>[SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as Aircraft ::EmergencyData. last_reported_position &amp; Aircraft ::EmergencyData. time_at_last_reported_position</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.54 Last Known Position Report - Determination Method

Last Known Position Report - Determination Method	
<b>Definition</b>	A plain-language description of the method used to determine the last known position of an aircraft
<b>Alternate Names</b>	Method of Determining Last Known Position, ICAO Field 20f
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Alphanumeric String
<b>Range of Values</b>	N/A
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO Standard ATS Messages] Transmitted in ALR as ICAO Field Type 20f. When used in the ICAO FPL field 20, if the information is not available, value should be NIL or NOT KNOWN</li> <li>• [SESAR Harmonization] Element is not present in the SESAR 10.02.05 FO. Element has been added to a list for consideration for inclusion in the SESAR model</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.55 Life Jacket Type

Life Jacket Type	
<b>Definition</b>	The type of life jackets available on board the aircraft
<b>Alternate Names</b>	Jackets
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Enumeration
<b>Range of Values</b>	one or more of the following values: {L, F, U, V}
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>The meaning of the values is as follows: <ul style="list-style-type: none"> <li>L - lights</li> <li>F - fluorescein</li> <li>U - UHF frequency 243.0MHz</li> <li>V - VHF frequency 121.5MHz</li> </ul> </li> <li>[ICAO] Since this data is not part of the filed flight plan, it must be made available by the operator, so that it can be supplied without delay when requested by ATS units</li> <li>[FAA] This information is part of the supplementary flight plan data and shall be kept readily available by the operator at the departure aerodrome or another agreed location, so that, on request by ATS units, it can be supplied without delay. Supplementary information is stored with the flight planning service (wherever the flight plan is entered e.g. FSS, DUATS, AOC, etc.)</li> <li>[ICAO Standard ATS Messages] Transmitted in ALR and SPL as ICAO Field Type 19e, preceded by "J/"</li> <li>[AFTN] When transmitted by the AFTN (aeronautical fixed telecommunications network), the message shall be assigned the same priority indicator as that in the request message.</li> <li>[SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::LifeJacketEquipment</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>



## 6.56 Navigation Capabilities

Navigation Capabilities	
<b>Definition</b>	The serviceable navigation equipment, available on board the aircraft at the time of flight, and for which the flight crew is qualified
<b>Alternate Names</b>	
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Enumeration or alphanumeric string
<b>Range of Values</b>	One or more of the following values (if enumeration): {N, S, A, B, C, D, F, G, I, K, L, O, T, W, X}
<b>Business Rules</b>	

Navigation Capabilities	
<b>Notes</b>	<ul style="list-style-type: none"> <li>The meanings of the values are as follows: <ul style="list-style-type: none"> <li>N - no NAV/approach aid equipment for the route to be flown is carried, or the equipment is unserviceable</li> <li>S - standard NAV/approach aid equipment for the route to be flown is carried and serviceable. This is VOR &amp; ILS unless another set is prescribed by the appropriate ATS authority</li> <li>A - GBAS</li> <li>B - LPV</li> <li>C - LORAN C</li> <li>D - DME</li> <li>F - ADF</li> <li>G - GNSS</li> <li>I - Inertial Navigation</li> <li>K - MLS</li> <li>L - ILS</li> <li>O - VOR</li> <li>T - TACAN</li> <li>W - RVSM</li> <li>X - MNPS</li> </ul> </li> <li>[ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 10a, combined with Communications Capabilities. If navigation capabilities other than those included in the range of values or specific in PBN/ need to be indicated, they are transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18 preceded by "NAV/" and "Z" is used in Item 10a. GNSS augmentation is also indicated as Field Type 18 preceded by "NAV/", and "G" is used in item 10a in this case</li> <li>[SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGL::EquipmentCapabilityandStatus and as FGL::OtherInformation.navigation_equipment</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.57 Number of Persons on Board

Number of Persons on Board	
<b>Definition</b>	The total number of persons (passengers and crew) on board the aircraft
<b>Alternate Names</b>	Persons on Board, Souls on Board
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Integer
<b>Range of Values</b>	[0-999]
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>Currently, the data is obtained manually and is required by letters of agreement between airport authorities and the FAA</li> <li>[ICAO] Since this data is not part of the filed flight plan, it must be made available by the operator, so that it can be supplied without delay when requested by ATS units</li> <li>[ICAO Standard ATS Messages] Transmitted in ALR and SPL as ICAO Field Type 19b, preceded by "P/"</li> <li>[AFTN] When transmitted by the AFTN (aeronautical fixed telecommunications network), the message shall be assigned the same priority indicator as that in the request message</li> <li>[SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGL::SupplementaryInformation.number_of_persons</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.58 Other Search and Rescue Information

Other Search and Rescue Information	
<b>Definition</b>	Other pertinent information not captured elsewhere needed to notify appropriate organizations regarding aircraft in need of search and rescue
<b>Alternate Names</b>	Other pertinent information, ICAO Field 20h
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Alphanumeric String
<b>Range of Values</b>	N/A
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO Standard ATS Messages] Transmitted in ALR as ICAO Field Type 20h. When used in the ICAO FPL field 20, if the information is not available, value should be NIL or NOT KNOWN</li> <li>• [SESAR Harmonization] Element is not present in the SESAR 10.02.05 FO. Element has been added to a list for consideration for inclusion in SESAR model</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.59 Performance-Based Navigation Capabilities

Performance-Based Navigation Capabilities	
<b>Definition</b>	A coded category denoting which Required Navigation Performance (RNP) and Area Navigation (RNAV) requirements can be met by the aircraft while operating in the context of a particular airspace when supported by the appropriate navigation infrastructure
<b>Alternate Names</b>	PBN
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Enumeration
<b>Range of Values</b>	Up to 8 of the following values: {A1, B1, B2, B3, B4, B5, B6, C1, C2, C3, C4, D1, D2, D3, D4, L1, O1, O2, O3, O4, S1, S2, T1, T2}
<b>Business Rules</b>	

Performance-Based Navigation Capabilities	
<b>Notes</b>	<ul style="list-style-type: none"> <li>The meanings of the values are as follows: <ul style="list-style-type: none"> <li>A1 - RNAV 10 (RNP 10)</li> <li>B1 - RNAV 5 all permitted sensors</li> <li>B2 - RNAV 5 GNSS</li> <li>B3 - RNAV 5 DME/DME</li> <li>B4 - RNAV 5 VOR/DME</li> <li>B5 - RNAV 5 INS OR IRS</li> <li>B6 - RNAV 5 LORAN-C</li> <li>C1 - RNAV 2 all permitted sensors</li> <li>C2 - RNAV 2 GNSS</li> <li>C3 - RNAV 2 DME/DME</li> <li>C4 - RNAV 2 DME/DME/IRU</li> <li>D1 - RNAV 1 all permitted sensors</li> <li>D2 - RNAV 1 GNSS</li> <li>D3 - RNAV 1 DME/DME</li> <li>D4 - RNAV 1 DME/DME/IRU</li> <li>L1 - RNP 4</li> <li>O1 - Basic RNP 1 all permitted sensors</li> <li>O2 - Basic RNP 1 GNSS</li> <li>O3 - Basic RNP 1 DME/DME</li> <li>O4 - Basic RNP 1 DME/DME/IRU</li> <li>S1 - RNP APCH</li> <li>S2 - RNP APCH with barometric vertical navigation</li> <li>T1 - RNP AR APCH with RF (authorization required)</li> <li>T2 - RNP AR APCH without RF (authorization required)</li> </ul> </li> <li>[ICAO Standard ATS Messages] Transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by "PBN". The letter "R" is included in ICAO Field Type 10a, transmitted in ALR, FPL, and CPL, to indicate that performance based navigation levels are specified in Item 18</li> <li>[SESAR Harmonization] Element is not present in the SESAR 10.02.05 FO. Element has been added to a list for consideration for inclusion in the SESAR model</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.60 Pilot In Command

Pilot In Command	
<b>Definition</b>	The name of the pilot in command of the aircraft
<b>Alternate Names</b>	PIC
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Alpha String
<b>Range of Values</b>	N/A
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO] Since this data is not part of the filed flight plan, it must be made available by the operator, so that it can be supplied without delay when requested by ATS units</li> <li>• [FAA] This information is part of the supplementary flight plan data and shall be kept readily available by the operator at the departure aerodrome or another agreed location, so that, on request by ATS units, it can be supplied without delay</li> <li>• [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::SupplementaryInformation.pilot_name</li> <li>• [ICAO Standard ATS Messages] Transmitted in ALR and SPL as ICAO Field Type 19i, preceded by "C/"</li> <li>• [AFTN] When transmitted by the AFTN (aeronautical fixed telecommunications network), the message shall be assigned the same priority indicator as that in the request message</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.61 Radio Failure Remarks

Radio Failure Remarks	
<b>Definition</b>	Pertinent information needed to notify appropriate organizations regarding loss of radio communication capabilities
<b>Alternate Names</b>	Any Necessary Remarks, ICAO Field 21f
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Alphanumeric String
<b>Range of Values</b>	N/A
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO Standard ATS Messages] Transmitted in RCF as ICAO Field Type 21f. If the information is not available, value should be NIL or NOT KNOWN</li> <li>• [SESAR Harmonization] Element is not present in the SESAR 10.02.05 FO. Element has been added to a list for consideration for inclusion in the SESAR model</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>



## 6.62 Remaining Communication Capabilities

Remaining Communication Capabilities	
<b>Definition</b>	The remaining communication capability of the aircraft following radio failure
<b>Alternate Names</b>	Remaining COM Capability, ICAO Field 21e
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Enumeration or alphanumeric string
<b>Range of Values</b>	one or more of the following values (if enumeration): {N, S, E1, E2, E3, H, M1, M2, M3, P1, P2, P3, P4, P5, P6, P7, P8, P9, U, V, Y}
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>This data element can contain either free form text or a combination of the following ICAO codes for communication capabilities: <ul style="list-style-type: none"> <li>N - No serviceable communication equipment for the route flown</li> <li>S - Standard equipment for the route flown (VHF RTF)</li> <li>E1 - FMC WPR ACAR</li> <li>E2 - D-FIS ACARS</li> <li>E3 - PDC ACARS</li> <li>H - HF RTF</li> <li>M1 - ATC RTF SATCOM (INMARSAT)</li> <li>M2 - ATC RTF (MTSAT)</li> <li>M3 - ATC RTF (Iridium)</li> <li>P1-P9 - reserved for RCP</li> <li>U - UHF RTF</li> <li>V - VHF RTF</li> <li>Y - ATS VHF w/ 8.33 kHz channel spacing capability</li> </ul> </li> <li>[ICAO Standard ATS Messages] Transmitted in RCF as ICAO Field Type 21e. When the information is not available, the value should be NIL or NOT KNOWN</li> <li>[SESAR Harmonization] Element is not present in the SESAR 10.02.05 FO. Element has been added to a list for consideration for inclusion in the SESAR model</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.63 Route

Route	
<b>Definition</b>	The ICAO route string as depicted from the flight plan.
<b>Alternate Names</b>	ICAO Field 15c
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Alphanumeric String
<b>Range of Values</b>	N/A
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [NAS] In the NAS FPL, field 15 captures the route as well as the cruising speed and level. The optional [SID] and [STAR] are expressed by the Airway data element</li> <li>• [ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 15c</li> <li>• [NAS CMS] This data element corresponds to Field 10</li> <li>• [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::ICAORoute</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• FAA ICAO Flight Planning Interface Reference Guide ver 1.3, May 2008</li> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.64 Route - Revised Destination

Route - Revised Destination	
<b>Definition</b>	The route from the current location to the revised destination aerodrome
<b>Alternate Names</b>	Revised Route
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Alphanumeric String
<b>Range of Values</b>	N/A
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO Standard ATS Messages] Transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by "RIF/"</li> <li>• [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::OtherInformation.reclearance_in_flight. The revised route is subject to re-clearance in flight</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.65 Selective Calling Code

Selective Calling Code	
<b>Definition</b>	A code which consists of two 2-letter pairs and acts as a paging system for an ATS unit to establish voice communications with the pilot of an aircraft
<b>Alternate Names</b>	SELCAL Code
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Alphanumeric String
<b>Range of Values</b>	[A-S] excluding {I, N, O}
<b>Business Rules</b>	Selcal codes use letters [A-S] excluding I, N, and O. Duplicate letters, in the same pair, are not allowed. The succeeding letter, in the same pair, must be higher than the preceding one. Aviation Spectrum Resources (ASRI) is the registrar and issuer of selcal codes worldwide. Used during HF communications when aircraft are overflying large unpopulated areas such as oceans and deserts.
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO Standard ATS Messages] Transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by "SEL/"</li> <li>• [SESAR harmonization] Element is present in the SESAR 10.02.05 FO model as FGL::OtherInformation.selcal_code. This code is permanently assigned to individual aircraft. Selective calling is mostly used by Oceanic Enroute Facilities</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Aviation Spectrum Resources, Inc. Selective Calling (SELCAL) Users Guide</li> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.66 Significant Point

Significant Point	
<b>Definition</b>	The point where a Change of Speed and Altitude/Flight Rules/Cruise Climb is planned to take place
<b>Alternate Names</b>	
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Location
<b>Range of Values</b>	If expressed as ICAO location identifier, values comply with ICAO Doc. 7910
<b>Business Rules</b>	This data element is associated with “Change Speed and Altitude”, “Change Flight Rules”, or “Change Cruise Climb”
<b>Notes</b>	<ul style="list-style-type: none"> <li>[ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 15c3</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.67 Special Handling Reason

Special Handling Reason	
<b>Definition</b>	A property of the flight which requires ATS units to give it special consideration
<b>Alternate Names</b>	Reason for Special Handling
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Enumeration
<b>Range of Values</b>	one of the following values: {ALTRV, ATFMX, FFR, FLTCK, HAZMAT, HEAD, HOSP, HUM, MARSA, MEDEVAC, NONRVSM, SAR, STATE}
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>The meaning of the values is as follows: <ul style="list-style-type: none"> <li>ALTRV - operated IAW altitude reservation</li> <li>ATFMX - approved for exemption from ATFM measures by ATS authority</li> <li>FFR - fire fighting</li> <li>FLTCK - flight check for calibration of NAVAIDs</li> <li>HAZMAT - carrying hazardous material</li> <li>HEAD - Head of State status</li> <li>HOSP - medical flight declared by medical authorities</li> <li>HUM - on humanitarian mission</li> <li>MARSA - military entity assumes responsibility for separation of military aircraft</li> <li>MEDEVAC - life critical medical emergency evacuation</li> <li>NONRVSM - non-RVSM capable flight intending to operate in RVSM airspace</li> <li>SAR - engaged in search and rescue mission</li> <li>STATE - engaged in military, customs or police services</li> </ul> </li> <li>[ICAO Standard ATS Messages] Transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by "STS/"</li> <li>[SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::OtherInformation.reason_for_special_handling</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.68 Surveillance Capabilities

Surveillance Capabilities	
<b>Definition</b>	The serviceable Secondary Surveillance Radar (SSR) and/or Automatic Dependent Surveillance (ADS) equipment, available on the aircraft at the time of flight, that may be used to identify and/or locate the aircraft
<b>Alternate Names</b>	Surveillance Equipment, ICAO Field 10b
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Enumeration
<b>Range of Values</b>	one or more of the following values: {A, B1, B2, C, D1, G1, E, H, I, L, P, S, U1, U2, V1, V2, X}
<b>Business Rules</b>	

Surveillance Capabilities	
Notes	<ul style="list-style-type: none"> <li>The meaning of the values is as follows: <ul style="list-style-type: none"> <li>A - Transponder-Mode A (4 digits-4,096 codes)</li> <li>B1 - ADS-B with dedicated 1090 MHz ADS-B out capability,</li> <li>B2 - ADS-B with dedicated 1090 MHz ADS-B out and in capability</li> <li>C - Transponder-Mode A (4 digits-4,096 codes) and Mode C</li> <li>D1 - ADS-C with FANS 1/A capabilities</li> <li>G1 - ADS-C with ATN capabilities</li> <li>E - Transponder Mode S including aircraft identification, pressure-altitude, and extended squitter capability (ADS-B),</li> <li>H - Transponder Mode S including aircraft identification, pressure-altitude, and enhanced surveillance capability,</li> <li>I - Transponder Mode S including aircraft identification, but no pressure-altitude capability,</li> <li>L - Transponder Mode S including aircraft identification, pressure-altitude, extended squitter, and enhanced surveillance capability</li> <li>P - Transponder Mode S including pressure-altitude, but no aircraft identification capability</li> <li>S - Transponder-Mode S, including both pressure-altitude and aircraft identification transmission</li> <li>U1 - ADS-B out capability using UAT</li> <li>U2 - ADS-B out and in capability using UAT</li> <li>V1 - ADS-B out capability using VDL mode 4</li> <li>V2 - ADS-B in and out capability using VDL mode 4</li> <li>X - Transponder Mode S with neither aircraft identification nor pressure-altitude capability</li> </ul> </li> <li>[ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 10b. Additional surveillance capabilities that cannot be listed here are transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by SUR/</li> <li>[SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::SurveillanceEquipment</li> </ul>
References	<ul style="list-style-type: none"> <li>Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>



## 6.69 Survival Equipment Remarks

Survival Equipment Remarks	
<b>Definition</b>	Other survival equipment carried on the aircraft, and any other useful remarks regarding survival equipment
<b>Alternate Names</b>	
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Alphanumeric String
<b>Range of Values</b>	N/A
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO Standard ATS Messages] Transmitted in ALR and SPL as ICAO Field Type 19h, preceded by "N/"</li> <li>• [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::SupplementaryInformation.Other_SurvivalEquipment</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.70 Survival Equipment Type

Survival Equipment Type	
<b>Definition</b>	The type of equipment carried onboard the aircraft that can be used by the crew and passengers to assist survival in harsh environments in case of emergency
<b>Alternate Names</b>	
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Enumeration
<b>Range of Values</b>	one or more of the following values: {P, D, M, J}
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>The meaning of the values is as follows: <ul style="list-style-type: none"> <li>P - polar survival equipment</li> <li>D - desert survival equipment</li> <li>M - maritime survival equipment</li> <li>J - jungle survival equipment</li> </ul> </li> <li>[ICAO] Since this data is not part of the filed flight plan, it must be made available by the operator, so that it can be supplied without delay when requested by ATS units</li> <li>[FAA] This information is part of the supplementary flight plan data and shall be kept readily available by the operator at the departure aerodrome or another agreed location, so that, on request by ATS units, it can be supplied without delay. When transmitted by the AFTN (aeronautical fixed telecommunications network), the message shall be assigned the same priority indicator as that in the request message. Supplementary information is stored with the flight planning service (wherever the flight plan is entered, e.g. FSS, DUATS, AOC, etc.)</li> <li>[ICAO Standard ATS Messages] Transmitted in ALR and SPL as ICAO Field Type 19d, preceded by "S/"</li> <li>[AFTN] When transmitted by the AFTN, the message shall be assigned the same priority indicator as that in the request message.</li> <li>[SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGL::SupplementaryInformation.survival_equipment</li> </ul>

Survival Equipment Type	
<i>References</i>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.71 Takeoff Alternate Aerodrome

Takeoff Alternate Aerodrome	
<b>Definition</b>	An alternate aerodrome (identified either as a named fix or a pair of latitude/longitude coordinates, or bearing and distance from the nearest significant point, or a marker radio beacon) at which an aircraft can land, should this become necessary shortly after take-off, and it is not possible to use the departure aerodrome
<b>Alternate Names</b>	
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Location
<b>Range of Values</b>	If expressed as ICAO location identifier, values comply with ICAO Doc. 7910
<b>Business Rules</b>	A take-off alternate airport shall be selected and specified in the operational flight plan, if the weather conditions at the airport of departure are at or below the applicable airport operating minima or it would not be possible to return to the departure airport of departure for other reasons. The take-off alternate must be within a specified distance of the departure airport. For an airport to be selected as a take-off alternate, the available information shall indicate that, at the estimated time of use, the conditions will be at or above the airport operating minima for that operation
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO Standard ATS Messages] Transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by "TALT/"</li> <li>• [SESAR Harmonization] Element is not present in the SESAR 10.02.05 FO. Element has been added to a list for consideration for inclusion in the SESAR model.</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• ICAO Doc. 7910 - Location Identifiers</li> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.72 Time En Route - Estimated

Time En Route - Estimated	
<b>Definition</b>	The total estimated time enroute, from the departure time to the arrival at the destination
<b>Alternate Names</b>	Total Estimated Elapsed Time, ICAO Field 16b
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Time Duration
<b>Range of Values</b>	N/A
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>• [ICAO Standard ATS Messages] Transmitted in all Standard ATS Messages except RCF and LAM as ICAO Field Type 16b</li> <li>• [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGL::FlightPlan.eet</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> </ul>

## 6.73 Wake Turbulence Category

Wake Turbulence Category	
<b>Definition</b>	ICAO classification of the aircraft wake turbulence based on the maximum certified takeoff mass
<b>Alternate Names</b>	Wake Turbulence, ICAO Field 9c
<b>Has Parts</b>	
<b>Is Part Of</b>	
<b>Data Type</b>	Enumeration
<b>Range of Values</b>	one of the following values: {L, M, H, J}
<b>Business Rules</b>	
<b>Notes</b>	<ul style="list-style-type: none"> <li>The meaning of the values is as follows: <ul style="list-style-type: none"> <li>H (Heavy) - aircraft types of 136,000 kg (300,000 lb) or more</li> <li>M (Medium) - aircraft types less than 136,000 kg (300,000 lb) and more than 7,000 kg (15,500 lb)</li> <li>L (Light) - aircraft types of 7,000 kg (15,500 lb) or less</li> <li>J (Super Heavy) - for Airbus A380-800 with a maximum take-off mass in the order of 560,000 kg</li> </ul> </li> <li>[ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 9c</li> <li>[FAA] The FAA does not currently support the ICAO J SUPER designation in this field. Instead, it adds the Super suffix to the call sign to indicate more stringent separation requirements. The FAA uses the following categorization: HEAVY - Aircraft capable of takeoff weights of more than 300,000 pounds (136,000 kg) or more whether or not they are operating at this weight during a particular phase of flight. LARGE - Aircraft of more than 41,000 pounds (19,000 kg), maximum certificated takeoff weight, up to but not including 300,000 pounds. SMALL - Aircraft of 41,000 pounds or less maximum certificated takeoff weight. See the FIXM NAS extensions</li> <li>[SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::FlightPlan.wtc</li> </ul>
<b>References</b>	<ul style="list-style-type: none"> <li>Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)</li> <li>Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007</li> <li>Aircraft Type Designators - Doc. 8643</li> </ul>

## Appendix A: Glossary

Term	Definition
<b>ACP</b>	Designator for the standard ATS message type “Acceptance,” which falls under the “Coordination” message category.
<b>ALR</b>	Designator for the standard ATS message type “Alerting,” which falls under the “Emergency” message category.
<b>ARR</b>	Designator for the standard ATS message type “Arrival,” which falls under the “Filed flight plan and associated update” message category.
<b>CDN</b>	Designator for the standard ATS message type “Coordination,” which falls under the “Coordination” message category.
<b>CHG</b>	Designator for the standard ATS message type “Modification,” which falls under the “Filed flight plan and associated update” message category.
<b>CNL</b>	Designator for the standard ATS message type “Cancellation,” which falls under the “Filed flight plan and associated update” message category.
<b>CPL</b>	Designator for the standard ATS message type “Current flight plan,” which falls under the “Coordination” message category.
<b>DEP</b>	Designator for the standard ATS message type “Departure,” which falls under the “Filed flight plan and associated update” message category.
<b>DLA</b>	Designator for the standard ATS message type “Delay,” which falls under the “Filed flight plan and associated update” message category.
<b>EST</b>	Designator for the standard ATS message type “Estimate,” which falls under the “Coordination” message category.
<b>FPL</b>	Designator for the standard ATS message type “Filed flight plan,” which falls under the “Filed flight plan and associated update” message category.
<b>INMARSAT</b>	In the context of this document, INMARSAT is used to specify that data is transiting via the INMARSAT satellite network.
<b>Iridium</b>	In the context of this document, Iridium is used to specify that data is transiting via the Iridium satellite network.
<b>LAM</b>	Designator for the standard ATS message type “Logical acknowledgement,” which falls under the “Coordination” message category.
<b>MTSAT</b>	In the context of this document, MTSAT (Multifunctional Transport Satellites) is used to specify that data is transiting via the MTSAT satellite network.
<b>RCF</b>	Designator for the standard ATS message type “Radio communication failure,” which falls under the “Emergency” message category.

Term	Definition
<b>RQP</b>	Designator for the standard ATS message type “Request flight plan,” which falls under the “Supplementary” message category.
<b>RQS</b>	Designator for the standard ATS message type “Request supplementary flight plan,” which falls under the “Supplementary” message category.
<b>SPL</b>	Designator for the standard ATS message type “Supplementary flight plan,” which falls under the “Supplementary” message category.



## Appendix B: Acronym List

Acronym	Definition
<b>ACARS</b>	Aircraft Communications Addressing and Reporting System
<b>ADF</b>	Automatic Direction Finder
<b>ADS</b>	Automatic Dependent Surveillance
<b>ADS-B</b>	Automatic Dependent Surveillance- Broadcast
<b>ADS-C</b>	Automatic Dependent Surveillance- Contract
<b>AFIL</b>	Air Filed Flight Plan
<b>AFTN</b>	Aeronautical Fixed Telecommunication Network
<b>AIP</b>	Aeronautical Information Publication
<b>AIM</b>	Aeronautical Information Reference Model
<b>AIXM</b>	Aeronautical Information Exchange Model
<b>ALERFA</b>	Alert Phase
<b>ALR</b>	ICAO Airline Code
<b>ALTRV</b>	Altitude Reservation
<b>ANSP</b>	Air Navigation Service Provider
<b>AOC</b>	Airline Operations Center
<b>APCH</b>	Approach
<b>AR</b>	Arrival
<b>ASDI</b>	Aircraft Situation Display to Industry
<b>ATFMX</b>	Flight Approved for Exemption
<b>ATM</b>	Air Traffic Management
<b>ATN</b>	Aeronautical Telecommunication Network
<b>ATS</b>	Air Traffic Service
<b>CMS</b>	Common Message Set
<b>CPDLC</b>	Controller Pilot Data Link Communications
<b>CPL</b>	Current Flight Plan
<b>DCT</b>	Direct
<b>DD</b>	Data Dictionary
<b>DETRESFA</b>	Distress Phase
<b>DME</b>	Distance Measuring Equipment
<b>DUAT</b>	Direct User Access Terminal
<b>EA</b>	Enterprise Architecture
<b>ELBA</b>	Emergency Location Beacon-Aircraft
<b>ELT</b>	Emergency Locator Transmitter
<b>ERAM</b>	En Route Automation Modernization
<b>FAA</b>	Federal Aviation Administration

<b>Acronym</b>	<b>Definition</b>
<b>FANS</b>	Future Air Navigation System
<b>FDE</b>	Flight Data Element
<b>FFR</b>	Fire Fighting Aircraft
<b>FIR</b>	Flight Information Region
<b>FIS</b>	Flight Information Service
<b>FIXM</b>	Flight Information Exchange Model
<b>FL</b>	Flight Level
<b>FLTCK</b>	Flight Check Aircraft
<b>FMC</b>	Flight Management Computer
<b>FO</b>	Flight Object
<b>FP</b>	Flight Plan
<b>FSS</b>	Flight Service Station
<b>GBAS</b>	Ground Based Augmentation System
<b>GNSS</b>	Global Navigation Satellite System
<b>GUFID</b>	Globally Unique Flight Identifier
<b>HAZMAT</b>	Hazardous Materials
<b>HF</b>	High Frequency
<b>HFDL</b>	High Frequency Data Link
<b>Hg</b>	Mercury
<b>HOSP</b>	Hospital Wing Aircraft
<b>HOST</b>	FAA Enroute Computer System
<b>hPa</b>	Hecto Pascals
<b>IAS</b>	Initial Airspeed
<b>IAW</b>	In Accordance With
<b>ICAO</b>	International Civil Aviation Organization
<b>ICD</b>	Interface Control Document
<b>IFR</b>	Instrument Flight Rules
<b>ILS</b>	Instrument Landing System
<b>INCERFA</b>	Uncertainty Phase
<b>INS</b>	Inertial Navigation System
<b>IRS</b>	Inertial Reference System
<b>IRU</b>	Inertial Reference Unit
<b>kHz</b>	Kilohertz
<b>Km</b>	Kilometer
<b>Kt</b>	Knot
<b>LAM</b>	Logical Acknowledgement Message
<b>LORAN</b>	Long Range Navigation
<b>MARSA</b>	Military Assumes Responsibility for Separation of Aircraft
<b>MEDEV</b>	Emergency Medical Evacuation Aircraft

<b>Acronym</b>	<b>Definition</b>
<b>AC</b>	
<b>MHz</b>	Megahertz
<b>MLS</b>	Microwave Landing System
<b>MNPS</b>	Minimum Navigation Performance Specification
<b>MTSAT</b>	Multifunction Transport Satellite
<b>NAS</b>	National Airspace System
<b>NAVAID</b>	Navigational Aid
<b>NDB</b>	Non-directional Beacon
<b>PANS</b>	<a href="#">Procedures for Air Navigation Services</a>
<b>PBN</b>	Performance Based Navigation
<b>PDC</b>	Pre-Departure Clearance
<b>PIC</b>	Pilot-in-Command
<b>RCP</b>	Required Communication Performance
<b>RF</b>	Radio Frequency
<b>RNAV</b>	Area Navigation
<b>RNP</b>	Required Navigation Performance
<b>RTF</b>	Radio Telephone
<b>RVSM</b>	Reduced Vertical Separation Minimum
<b>SAR</b>	Search and Rescue
<b>SESAR</b>	Single European Sky ATM Research
<b>TACAN</b>	Tactical Air Navigation System
<b>TFMS</b>	Traffic Flow Management System
<b>SATCOM</b>	Satellite Communications
<b>SELCAL</b>	Selective Calling Radio System
<b>SID</b>	Standard Instrument Departure
<b>SSR</b>	Secondary Surveillance Radar
<b>STAR</b>	Standard Terminal Arrival Route
<b>TUFI</b>	TFMS Unique Flight Identifier
<b>UAT</b>	Universal Access Transceiver
<b>UHF</b>	Ultra High Frequency
<b>UML</b>	Unified Modeling Language
<b>UOM</b>	Unit of Measure
<b>UTC</b>	Universal Coordinated Time
<b>VDL</b>	VHF Digital Link
<b>VFR</b>	Visual Flight Rules
<b>VHF</b>	Very High Frequency
<b>VOR</b>	VHF Omnidirectional Radio Range
<b>WPR</b>	Waypoint Position Reporting
<b>WXXM</b>	Weather Information Exchange Model

## Appendix C: FIXM DD to FIXM Schema correspondence matrix

The table below shows the correspondence between the data elements captured in this document and the equivalent entities from the FIXM schemas.

FIXM DD Element	FIXM Schema Type
Action Taken By Reporting Unit	FlightEmergencyType
Airborne Equipment Qualifier	AircraftPerformanceCharacteristicsType
Aircraft Color and Markings	AircraftType
Aircraft Common Mark	AircraftType
Aircraft Identification	AircraftIdentifierType
	AircraftIdentificationType
Aircraft Operator Identity	AircraftType
Aircraft Performance Category	AircraftPerformanceCharacteristicsType
Aircraft Quantity	FlightPlanType
Aircraft Registration Mark	RegistrationType
Aircraft Registration Nationality	RegistrationType
Aircraft Type	AircraftType
	AirframeType
Arrival Aerodrome	FlightPlanArrivalType
Arrival Time - Actual	FlightPlanArrivalType
ATS Route Designator	SegmentAirwayType
ATS Route Designator	RouteSegmentType
Beacon Code	BeaconCodeType
Beacon Code	AircraftIdentificationType
Boundary Crossing Condition	BoundaryCrossingType
Boundary Crossing Level - Cleared	BoundaryCrossingType
Boundary Crossing Level - Limit	BoundaryCrossingType
Boundary Crossing Time	BoundaryCrossingType
Center to Center External Remarks	FlightPlanType
Center to Center External Remarks	RouteType
Change Altitude	ChangeSegmentType
Change Cruise Climb	ChangeSegmentType
Change Flight Rules	ChangeSegmentType
Change Point	ChangeSegmentType
Change Speed	ChangeSegmentType
Communications Capabilities	CommunicationCapabilityType
Cruising Level	CruiseSegmentType
Cruising Speed	CruiseSegmentType

<b>FIXM DD Element</b>	<b>FIXM Schema Type</b>
Data Link Communication Capabilities	CommunicationCapabilityType
Departure Aerodrome	FlightPlanDepartureType
Departure Time - Estimated	FlightPlanDepartureType
Destination Aerodrome	FlightPlanArrivalType
Destination Aerodrome - Additional Info	FlightPlanArrivalType
Destination Aerodrome - Alternate	FlightPlanArrivalType
Dinghy Color	DinghyType
Dinghy Cover Status	DinghyType
Dinghy Quantity	DinghiesType
Dinghy Total Capacity	DinghiesType
Emergency Description	FlightEmergencyType
Emergency Message Originator	FlightEmergencyType
Emergency Phase	FlightEmergencyType
Emergency Radio Transmitter Type	FlightEmergencyType
En Route Alternate Aerodrome	FlightPlanEnRouteType
En Route Delay - Filed	FlightPlanEnRouteType
Estimated Elapsed Time	FlightPlanType
Flight Plan Accepted	FlightPlanFilingType
Flight Plan Filer	FlightPlanFilingType
Flight Plan Originator	FlightPlanType
Flight Rules	FlightPlanRequestType
Flight Type	FlightPlanType
Fuel Endurance	FlightEmergencyType
Fuel Endurance	AircraftPerformanceCharacteristicsType
Globally Unique Flight Identifier	FlightType
Globally Unique Flight Identifier	GufiType
ICAO Wake Turbulence Category	AircraftPerformanceCharacteristicsType
Last Contact Radio Frequency	EmergencyContactType
Last Contact Time	EmergencyContactType
Last Contact Unit	EmergencyContactType
Last Known Position Report	EmergencyContactType
Last Known Position Report - Determination Method	EmergencyContactType
Life Jacket Type	LifeJacketTypeType
Navigation Capabilities	NavigationCapabilityType
Number of Persons on Board	FlightEmergencyType
Other Search and Rescue Information	FlightEmergencyType
Performance Based Navigation Capabilities	PerformanceBasedTypeType
Pilot In Command	FlightEmergencyType
Radio Failure Remarks	FlightEmergencyType

<b>FIXM DD Element</b>	<b>FIXM Schema Type</b>
Remaining Communication Capabilities	FlightEmergencyType
Route	FlightPlanType
Route	RouteType
Route - Revised Destination	FlightPlanType
Selective Calling Code	CommunicationCapabilityType
Special Handling Reason	FlightPlanType
Surveillance Capabilities	SurveillanceCapabilityType
Survival Equipment Remarks	SurvivalCapabilityType
Survival Equipment Type	SurvivalCapabilityType
Takeoff Alternate Aerodrome	FlightPlanDepartureType
Time En Route - Estimated	EstimatedTimeType